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ABSTRACT

This Unified Sciences and Mathematics for Elementary Schools (USMES) unit challenges students to find the best way to advertise a product or idea they want to promote. The challenge is general enough to apply to many problem-solving situations in mathematics, science, social science, and language arts at any elementary school level (grades 1-8). The Teacher Resource Book for the unit is divided into five sections. Section I describes the USMES approach to student-initiated investigations of real problems, including a discussion of the nature of USMES "challenges." Section II provides an overview of possible student activities with comments on prerequisite skills, instructional strategies, suggestions when using the unit with primary grades, flow charts illustrating how investigations evolve from students' discussions of an advertising problem, and a hypothetical account of intermediate-level class activities. Section III provides documented events of actual class activities from grades 2/3, 4, and 5. Section IV includes lists of "How To" cards and background papers, bibliography of non-USMES materials, and a glossary. Section V consists of charts identifying skills, concepts, processes, and areas of study learned as students become involved with advertising activities. (JN)

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Contributors

USMES Central Staff

Earle Lomon, *Project Director*
Betty M. Beck, *Associate Director for Development*
L. Ray Brady, Jr., *Editor/Production Manager*
Sally Agro, Edward Manfre, Sue Scott Sampson, Betsy Franco, Anne Fitzpatrick, *Associate Editors*
John W. Saalfield, *Graphic Designer*
Martha Allegro, Lois A. Finstein, Phyllis Gentile, Felicia Weitzel, Nancy Weiner, *Administrative Staff*

University Content and Curriculum Specialists

Michael Abraham, University of Oklahoma, Norman, OK
Arthur Ellis, University of Minnesota, Minneapolis, MN
Merrill Goldberg, Rockhurst College, Kansas City, MO
Edward Liddle, Oakland University, Rochester, MI

Classroom Teachers

Sandra Aken, Vista View Elementary School, Burnsville, MN
Carol Allen, Cumberland School, Lansing, MI
George Coklas, Countryside Elementary School, Edina, MN
Ralph DeLozier, Ernest Horn School, Iowa City, IA
Dianne Edwards, Washington School, Plainfield, NJ
Jon Emerson, Oyster River School, Durham, NH
Janice Hable, Michigan Avenue Middle School, Howell, MI
Margaret Hartzler, Heatherwood School, Boulder, CO
Jennie Kight, Cooper Elementary School, Derby, KA
John Limon, Heatherwood School, Boulder, CO
Sherry Malone, Hilsman Middle School, Athens, GA
Elnora Martin, Allen Street School, Lansing, MI
Donald Nelson, Mimosa Elementary School, Roswell, GA
Diane Sammet, Monte Vista School, Monterey, CA
Jacqueline Schneider, Multnomah Street School, Los Angeles, CA
Kathleen Schultz, Heatherwood School, Boulder, CO
Arthur Shaw, Stratton School, Arlington, MA
Rose Spaulding, Ernest Horn School, Iowa City, IA
Dorothy Springer, Woodmere School, Portland, OR
Donald Werhner, Fort King Middle School, Ocala, FL
Raymon Wilson, River School, Carmel, CA
Franklin Yates, Lyndale School, Minneapolis, MN

This edition of Advertising written and edited by Sally Agro, supervising editors Betty M. Beck and L. Ray Brady, Jr. Production work performed by Sally Agro, L. Ray Brady, Jr., and Martha Allegro. Cover design by John W. Saalfield.

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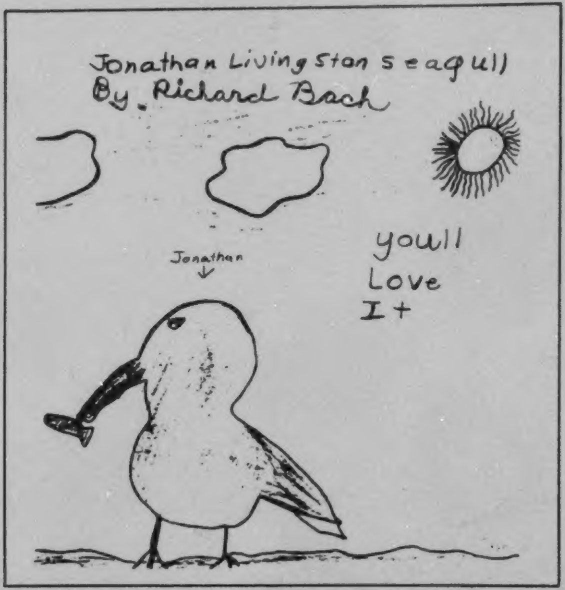
Mathematics and the Natural, Social, and Communications Sciences in
Real Problem Solving.

Advertising

Second Edition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Education Development Center, Inc.
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Trial Edition

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CHALLENGE: FIND THE BEST WAY TO ADVERTISE A PRODUCT OR EVENT THAT YOU WANT TO PROMOTE.

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Preface

The USMES Project

Unified Sciences and Mathematics for Elementary Schools: Mathematics and the Natural, Social, and Communications Sciences in Real Problem Solving (USMES) was formed in response to the recommendations of the 1967 Cambridge Conference on the Correlation of Science and Mathematics in the Schools.* Since its inception in 1970, USMES has been funded by the National Science Foundation to develop and carry out field trials of interdisciplinary units centered on long-range investigations of real and practical problems (or "challenges") taken from the local school/community environment. School planners can use these units to design a flexible curriculum for grades one through eight in which real problem solving plays an important role.

Development and field trials were carried out by teachers and students in the classroom with the assistance of university specialists at workshops and at occasional other meetings. The work was coordinated by a staff at the Education Development Center in Newton, Massachusetts. In addition, the staff at EDC coordinated implementation programs involving schools, districts, and colleges that are carrying out local USMES implementation programs for teachers and schools in their area.

Trial editions of the following units are currently available:

Advertising
Bicycle Transportation
Classroom Design
Classroom Management
Consumer Research
Describing People
Designing for Human Proportions
#Design Lab Design
#Eating in School
Getting There
Growing Plants
Manufacturing
Mass Communications
Nature Trails
Orientation
Pedestrian Crossings
Play Area Design and Use
Protecting Property
#School Rules
School Supplies
School Zoo
Soft Drink Design
Traffic Flow
#Using Free Time
Ways to Learn/Teach
Weather Predictions

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*See *Goals for the Correlation of Elementary Science and Mathematics*, Houghton Mifflin Co., Boston, 1969.

#Available fall 1976.

USMES Resources

In responding to a long-range challenge, the students and teachers often have need of a wide range of resources. In fact, all of the people and materials in the school and community are important resources for USMES activities. USMES provides resources in addition to these. One resource for students is the Design Lab or its classroom equivalent: using the tools and supplies available, children can follow through on their ideas by constructing measuring tools, testing apparatus, models, etc. Another resource for students is the *"How To" Cards*. Each set of cards gives information about a specific problem; the students use a set only when they want help on that particular problem.

Several types of resources are available for teachers: the *USMES Guide*, a *Teacher Resource Book* for each challenge, *Background Papers*, a *Design Lab Manual*, and a *Curriculum Correlation Guide*. A complete set of all these written materials comprise what is called the USMES library. This library, which should be available in each school using USMES units, contains the following:

1. *The USMES Guide*

   The USMES Guide is a compilation of materials that may be used for long-range planning of a curriculum that incorporates the USMES program. In addition to basic information about the project, the challenges, and related materials, it contains charts assessing the strengths of the various challenges in terms of their possible subject area content.

2. *Teacher Resource Books* (one for each challenge)

   Each book contains a description of the USMES approach to real problem-solving activities, general information about the particular unit, edited logs of class activities, other written materials relevant to the unit, and charts that indicate the basic skills, processes, and areas of study that may be learned and utilized as students become engaged in certain possible activities.

3. *Design Lab Manual*

   This contains sections on the style of Design Lab activities, safety considerations, and an inventory of tools and supplies. Because many "hands-on" activities may take place in the classroom, the Design Lab Manual should be made available to each USMES teacher.

4. *"How To" Cards*

These short sets of cards provide information to students about specific problems that may arise during USMES units. Particular computation, graphing, and construction problems are discussed. A complete list of the "How To" Cards can be found in the USMES Guide.

5. *Background Papers*

These papers are written to provide information for the teachers on technical problems that might arise as students carry on various investigations. A complete list of the Background Papers can be found in the USMES Guide.

6. *Curriculum Correlation Guide*

This volume is intended to coordinate other curriculum materials with the Teacher Resource Books and to provide the teacher with the means to integrate USMES easily into other school activities and lessons.

The preceding materials are described in brief in the USMES brochure, which can be used by teachers and administrators to disseminate information about the program to the local community. A variety of other dissemination and implementation materials are also available for individuals and groups involved in local implementation programs. They include *Preparing People for USMES: An Implementation Resource Book*, the USMES slide/tape show, the Design Lab slide/tape show, the Design Lab brochure, the USMES newsletter, videotapes of classroom activities, a general report on evaluation results, a map showing the locations of schools conducting local implementation of USMES, a list of experienced USMES teachers and university consultants, and newspaper and magazine articles.

Acknowledgments

Besides the contributors listed at the beginning of the book, we are deeply indebted to the many elementary school children whose investigations of the challenge form the basis for this book. Without their efforts this book would not have been possible. Many thanks to the Planning Committee for their years of service and advice. Many thanks also to other members of the USMES staff for their suggestions and advice and for their help in staffing and organizing the development workshops. Special thanks also go to Christopher Hale for his efforts as Project Manager during the development of this book.

* * *

Because Tri-Wall was the only readily available brand of three-layered cardboard at the time the project began, USMES has used it at workshops and in schools; consequently, references to Tri-Wall can be found throughout the Teacher Resource Books. The addresses of companies that supply three-layered cardboard can be found in the Design Lab Manual.

Introduction

Using the Teacher Resource Book

When teachers try a new curriculum for the first time, they need to understand the philosophy behind the curriculum. The USMES approach to student-initiated investigations of real problems is outlined in section A of this Teacher Resource Book.

Section B starts with a brief overview of possible student activities arising from the challenge; comments on prerequisite skills are included. Following that is a discussion of the classroom strategy for USMES real problem-solving activities, including introduction of the challenge, student activity, resources, and Design Lab use. Subsequent pages include a description of the use of the unit in primary grades, a flow chart and a composite log that indicate the range of possible student work, and a list of questions that the teacher may find useful for focusing the students' activities on the challenge.

Because students initiate all the activities in response to the challenge and because the work of one class may differ from that undertaken by other classes, teachers familiar with USMES need to read only sections A and B before introducing the challenge to students.

Section C of this book is the documentation section. These edited teachers' logs show the variety of ways in which students in different classes have worked at finding a solution to the challenge.

Section D contains a list of the titles of relevant sets of "How To" Cards and brief descriptions of the Background Papers pertaining to the unit. Also included in section D is a glossary of the terms used in the Teacher Resource Book and an annotated bibliography.

Section E contains charts that indicate the comparative strengths of the unit in terms of real problem solving, mathematics, science, social science, and language arts. It also contains a list of explicit examples of real problem solving and other subject area skills, processes, and areas of study learned and utilized in the unit. These charts and lists are based on documentation of activities that have taken place in USMES classes. Knowing ahead of time which basic skills and processes are likely to be utilized, teachers can postpone teaching that part of their regular program until later in the year. At that time students can study them in the usual way if they have not already learned them as part of their USMES activities.

A. Real Problem Solving and USMES

> *If life were of such a constant nature that there were only a few chores to do and they were done over and over in exactly the same way, the case for knowing how to solve problems would not be so compelling. All one would have to do would be to learn how to do the few jobs at the outset. From then on he could rely on memory and habit. Fortunately--or unfortunately depending upon one's point of view--life is not simple and unchanging. Rather it is changing so rapidly that about all we can predict is that things will be different in the future. In such a world the ability to adjust and to solve one's problems is of paramount importance.**

Real Problem Solving

USMES is based on the beliefs that real problem solving is an important skill to be learned and that many math, science, social science, and language arts skills may be learned more quickly and easily within the context of student investigations of real problems. Real problem solving, as exemplified by USMES, implies a style of education which involves students in investigating and solving real problems. It provides the bridge between the abstractions of the school curriculum and the world of the student. Each USMES unit presents a problem in the form of a challenge that is interesting to children because it is both real and practical. The problem is real in several respects: (1) the problem applies to some aspect of student life in the school or community, (2) a solution is needed and not presently known, at least for the particular case in question, (3) the students must consider the entire situation with all the accompanying variables and complexities, and (4) the problem is such that the work done by the students can lead to some improvement in the situation. This expectation of useful accomplishment provides the motivation for children to carry out the comprehensive investigations needed to find some solution to the challenge.

The level at which the children approach the problems, the investigations that they carry out, and the solutions

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*Kenneth B. Henderson and Robert E. Pingry, "Problem-Solving in Mathematics," in *The Learning of Mathematics: Its Theory and Practice*, Twenty-first Yearbook of the National Council of Teachers of Mathematics (Washington, D.C.: The Council, 1953), p. 233.

that they devise may vary according to the age and ability of the children. However, real problem solving involves them, at some level, in all aspects of the problem-solving process: definition of the problem; determination of the important factors in the problem; observation; measurement; collection of data; analysis of the data using graphs, charts, statistics, or whatever means the students can find; discussion; formulation and trial of suggested solutions; clarification of values; decision making; and communications of findings to others. In addition, students become more inquisitive, more cooperative in working with others, more critical in their thinking, more self-reliant, and more interested in helping to improve social conditions.

The USMES Approach

To learn the process of real problem solving, the students must encounter, formulate, and find some solution to complete and realistic problems. The students themselves, not the teacher, must analyze the problem, choose the variables that should be investigated, search out the facts, and judge the correctness of their hypotheses and conclusions. In real problem-solving activities, the teacher acts as a coordinator and collaborator, not an authoritative answer-giver.

The problem is first reworded by students in specific terms that apply to their school or community, and the various aspects of the problem are discussed by the class. The students then suggest approaches to the problem and set priorities for the investigations they plan to carry out. A typical USMES class consists of several groups working on different aspects of the problem. As the groups report periodically to the class on their progress, new directions are identified and new task forces are formed as needed. Thus, work on an USMES challenge provides students with a "discovery-learning" or "action-oriented" experience.

Real problem solving does not rely solely on the discovery-learning concept. In the real world people have access to certain facts and techniques when they recognize the need for them. The same should be true in the classroom. When the students find that certain facts and skills are necessary for continuing their investigation, they learn willingly and quickly in a more directed way to acquire these facts and skills. Consequently, the students should have available different resources that they may use as they recognize the need for them, but they should still be left with a wide scope to explore their own ideas and methods.

Certain information on specific skills is provided by the sets of USMES "How To" Cards. The students are referred only to the set for which they have clearly identified a need and only when they are unable to proceed on their own. Each "How To" Cards title clearly indicates the skill involved--"How to Use a Stopwatch," "How to Make a Bar Graph Picture of Your Data," etc. (A complete list of the "How To" Cards can be found in Chapter IX of the USMES Guide.)

Another resource provided by USMES is the Design Lab or its classroom equivalent. The Design Lab provides a central location for tools and materials where devices may be constructed and tested without appreciably disrupting other classroom activities. Ideally, it is a separate room with space for all necessary supplies and equipment and work space for the children. However, it may be as small as a corner of the classroom and may contain only a few tools and supplies. Since the benefits of real problem solving can be obtained by the students only if they have a means to follow up their ideas, the availability of a Design Lab can be a very important asset.

Optimally, the operation of the school's Design Lab should be such as to make it available to the students whenever they need it. It should be as free as possible from set scheduling or programming. The students use the Design Lab to try out their own ideas and/or to design, construct, test, and improve many devices initiated by their responses to the USMES challenges. While this optimum operation of the Design Lab may not always be possible due to various limitations, "hands-on" activities may take place in the classroom even though a Design Lab may not be available. (A detailed discussion of the Design Lab can be found in Chapter VI of the USMES Guide, while a complete list of "How To" Cards covering such Design Lab skills as sawing, gluing, nailing, soldering, is contained in Chapter IX.)

Work on all USMES challenges is not only sufficiently complex to require the collaboration of the whole class but also diverse enough to enable each student to contribute according to his/her interest and ability. However, it should be noted that if fewer than ten to twelve students from the class are carrying out the investigation of a unit challenge, the extent of their discovery and learning can be expected to be less than if more members of the class are involved. While it is possible for a class to work on two related units at the same time, in many classes the students progress better with just one.

The amount of time spent each week working on an USMES challenge is crucial to a successful resolution of the problem. Each challenge is designed so that the various investigations will take from thirty to forty-five hours, depending on the age of the children, before some solution to the problem is found and some action is taken on the results of the investigations. Unless sessions are held at least two or three times a week, it is difficult for the children to maintain their interest and momentum and to become involved intensively with the challenge. The length of each session depends upon the age level of the children and the nature of the challenge. For example, children in the primary grades may proceed better by working on the challenge more frequently for shorter periods of time, perhaps fifteen to twenty minutes, while older children may proceed better by working less frequently for much longer periods of time.

Student interest and the overall accomplishments of the class in finding and implementing solutions to the challenge indicate when the class's general participation in unit activities should end. (Premature discontinuance of work on a specific challenge is often due more to waning interest on the part of the teacher than to that of the students.) However, some students may continue work on a voluntary basis on one problem, while the others begin to identify possible approaches to another USMES challenge.

Importance of the Challenge

Although individual (or group) discovery and student initiation of investigations is the process in USMES units, this does not imply the constant encouragement of random activity. Random activity has an important place in children's learning, and opportunities for it should be made available at various times. During USMES activities, however, it is believed that children learn to solve real problems only when their efforts are focused on finding some solution to the real and practical problem presented in the USMES challenge. It has been found that students are motivated to overcome many difficulties and frustrations in their efforts to achieve the goal of effecting some change or at least of providing some useful information to others. Because the children's commitment to finding a solution to the challenge is one of the keys to successful USMES work, it is extremely important that the challenge be introduced so that it is accepted by the class as an important problem to which they are willing to devote a considerable amount of time.

The challenge not only motivates the children by stating the problem but also provides them with a criterion for judging their results. This criterion--if it works, it's right (or if it helps us find an answer to our problem, it's a good thing to do)--gives the children's ideas and results a meaning within the context of their goal. Many teachers have found this concept to be a valuable strategy that not only allows the teacher to respond positively to all of the children's ideas but also helps the children themselves to judge the value of their efforts.

Role of the Teacher

With all of the above in mind, it can be said that the teacher's responsibility in the USMES strategy for open classroom activities is as follows:

1. Introduce the challenge in a meaningful way that not only allows the children to relate it to their particular situation but also opens up various avenues of approach.

2. Act as a coordinator and collaborator. Assist, not direct, individuals or groups of students as they investigate different aspects of the problem.

3. Hold USMES sessions at least two or three times a week so that the children have a chance to become involved in the challenge and carry out comprehensive investigations.

4. Provide the tools and supplies necessary for initial hands-on work in the classroom or make arrangements for the children to work in the Design Lab.

5. Be patient in letting the children make their own mistakes and find their own way. Offer assistance or point out sources of help for specific information (such as the "How To" Cards) only when the children become frustrated in their approach to the problem. Conduct skill sessions as necessary.

6. Provide frequent opportunities for group reports and student exchanges of ideas in class discussions. In most cases, students will, by their own critical examination of the procedures they have used, improve or set new directions in their investigations.

7. If necessary, ask appropriate questions to stimulate the students' thinking so that they will make more extensive and comprehensive investigations or analyses of their data.

8. Make sure that a sufficient number of students (usually ten to twelve) are working on the challenge so that activities do not become fragmented or stall.

Student success in USMES unit activities is indicated by the progress they make in finding some solution to the challenge, not by following a particular line of investigation nor by obtaining specified results. The teacher's role in the USMES strategy is to provide a classroom atmosphere in which all students can, in their own way, search out some solution to the challenge.

USMES in the Total School Program

Today many leading educators feel that real problem solving (under different names) is an important skill to be learned. In this mode of learning particular emphasis is placed on developing skills to deal with real problems rather than the skills needed to obtain "correct" answers to contrived problems. Because of this and because of the interdisciplinary nature of both the problems and the resultant investigations, USMES is ideal for use as an important part of the elementary school program. Much of the time normally spent in the class on the traditional approaches to math, science, social science, and language arts skills can be safely assigned to USMES activities. In fact, as much as one-fourth to one-third of the total school program might be allotted to work on USMES challenges. Teachers who have worked with USMES for several years have each succeeding year successfully assigned to USMES activities the learning of a greater number of traditional skills. In addition, reports have indicated that students retain for a long time the skills and concepts learned and practiced during USMES activities. Therefore, the time normally spent in reinforcing required skills can be greatly reduced if these skills are learned and practiced in the context of real problem solving.

Because real problem-solving activities cannot possibly cover all the skills and concepts in the major subject areas, other curricula as well as other learning modes (such as "lecture method," "individual study topics," or programmed instruction) need to be used in conjunction with USMES in an optimal education program. However, the other instruction will be enhanced by the skills, motivation, and understanding provided by real problem solving, and, in some cases, work on an USMES challenge provides the context within which the skills and concepts of the major subject areas find application.

In order for real problem solving taught by USMES to have an optimal value in the school program, class time should be apportioned with reason and forethought, and the sequence of challenges investigated by students during their years in elementary school should involve them in a variety of skills and processes. Because all activities are initiated by students in response to the challenge, it is impossible to state unequivocally which activities will take place. However, it is possible to use the documentation of activities that have taken place in USMES trial classes to schedule instruction on the specific skills and processes required by the school system. Teachers can postpone the traditional way of teaching the skills that might come up in work on an USMES challenge until later in the year. At that time students can learn the required skills in the usual way if they have not already learned them during their USMES activities.

These basic skills, processes, and areas of study are listed in charts and lists contained in each Teacher Resource Book. A teacher can use these charts to decide on an overall allocation of class time between USMES and traditional learning in the major subject disciplines. Examples of individual skills and processes are also given so that the teacher can see beforehand which skills a student may encounter during the course of his investigations. These charts and lists may be found in section E.

Ways In Which USMES Differs From Other Curricula

As the foregoing indicates, USMES differs significantly from other curricula. Real problem solving develops the problem-solving ability of students and does it in a way (learning-by-doing) that leads to a full understanding of the process. Because of the following differences, some teacher preparation is necessary. Some teachers may have been introduced by other projects to several of the following new developments in education, but few teachers have integrated all of them into the new style of teaching and learning that real problem solving involves.

1. New Area of Learning--Real problem solving is a new area of learning, not just a new approach or a new content within an already-defined subject area. Although many subject-matter curricula

include something called problem solving, much of this problem solving involves contrived problems or fragments of a whole situation and does not require the cognitive skills needed for the investigation of real and practical problems. Learning the cognitive strategy required for real problem solving is different from other kinds of learning.

3. Interdisciplinary Education--Real problem solving integrates the disciplines in a natural way; there is no need to impose a multi-disciplinary structure. Solving real and practical problems requires the application of skills, concepts, and processes from many disciplines. The number and range of disciplines are unrestricted and the importance of each is demonstrated in working toward the solution of practical problems.

3. Student Planning--To learn the process of problem solving, the students themselves, not the teacher, must analyze the problem, choose the variables that should be investigated, search out the facts, and judge the correctness of the hypotheses and conclusions. In real problem-solving activities the teacher acts as a coordinator and collaborator, not as an authoritative source of answers.

4. Learning-by-Doing--Learning-by-doing, or discovery learning as it is sometimes called, comes about naturally in real problem solving since the problems tackled by each class have unique aspects; for example, different lunchrooms or pedestrian crossings have different problems associated with them and, consequently, unique solutions. The challenge, as defined in each situation, provides the focus for the children's hands-on learning experiences, such as collecting real data; constructing measuring instruments, scale models, test equipment, etc.; trying their suggested improvements; and (in some units) preparing reports and presentations of their findings for the proper authorities.

5. Learning Skills and Concepts as Needed--Skills and concepts are learned in real problem solving

as the need for them arises in the context of the work being done, rather than having a situation imposed by the teacher or the textbook being used. Teachers may direct this learning when the need for it arises, or students may search out information themselves from resources provided.

6. Group Work--Progress toward a solution to a real problem usually requires the efforts of groups of students, not just individual students working alone. Although some work may be done individually, the total group effort provides good opportunities for division of labor and exchange of ideas among the groups and individuals. The grouping is flexible and changes in order to meet the needs of the different stages of investigation.

7. Student Choice--Real problem solving offers classes the opportunity to work on problems that are real to them, not just to the adults who prepare the curriculum. In addition, students may choose to investigate particular aspects of the problem according to their interest. The variety of activities ensuing from the challenge allows each student to make some contribution towards the solution of the problem according to his or her ability and to learn specific skills at a time when he or she is ready for that particular intellectual structure.

B. General Papers on **Advertising**

1. OVERVIEW OF ACTIVITIES

Challenge:

Find the best way to advertise a product or event that you want to promote.

Children become involved in the Advertising challenge when they need to advertise a product or event in their classroom or school. Students usually find their work on Advertising to be exciting because they have been heavily exposed to advertising on TV, in magazines, on billboards, and on the radio. Students may wish to advertise their favorite books to their classmates in order to stimulate them to read the books, or they may wish to advertise a school-wide event, such as a bake sale or play. Often the Advertising challenge arises from work on another USMES challenge such as Growing Plants, School Supplies, Manufacturing, or Soft Drink Design. For example, the students may wish to advertise the opening of a school store or the sale either of a product they have made or of a new soft drink they have invented.

Initially, the class may hold a discussion about ways to advertise their product or event. In some classes the students form groups to carry out the tasks they have identified. For example, one group may determine the availability of various supplies and media equipment for the suggested methods of advertising while other groups may examine professional ads to identify the elements of effective advertising, design sample ads, and conduct surveys to determine customer preferences for color, size, and design of their advertisement.

Using graphs and charts of their data, the various groups may present their findings to the class. After discussing the survey results on customer preferences and listing both the important elements of advertising and the supplies and equipment available, the class may form groups to conduct ad campaigns using such diverse methods as tape recordings, the intercom system, videotapes, skits, flyers, sandwich boards, posters, and ads for the school bulletin. During class discussion the students may determine the name, price, and slogan for the product or event and, if they have not already done so, the time and place of the sale or event.

The students may then work in groups to design, write, and construct ads using the various media and to perform other tasks needed for a particular method of advertising. One group may construct sandwich boards or write scripts; another group working on posters may also measure traffic flow in the halls to determine the best placement for their posters. Some students may work on advertising gimmicks such as clever packaging or discount coupons.

Once the campaigns are launched and the sale or event being advertised is in progress, the students may want to collect new data to determine how customers heard about the sale or event. After analyzing this data, the children may improve their campaigns. Later, the class may make a final evaluation of the various campaigns to decide which method of advertising was the best.

The class may continue to work on the Advertising challenge by forming an ad agency. Work on Advertising may also lead to such related USMES units as Consumer Research or Mass Communications.

Although many of the activities in the Advertising unit may require skills and concepts new to the children, there is no need for preliminary work on these skills and concepts because the children can learn them when the need arises. In fact, children learn more quickly and easily when they see a need to learn. Consider counting: whereas children usually learn to count by rote, they can, through USMES, gain a better understanding of counting by learning it or practicing it within real contexts. In working on Advertising, children also learn and practice graphing, measuring, working with decimals, and dividing. Although dividing seems necessary to compare fractions or ratios, primary children can make comparisons graphically; sets of data can also be compared graphically or by subtracting medians (half-way values). Division may be introduced during calculation of percentages, averages, or unit costs.

2. CLASSROOM STRATEGY FOR ADVERTISING

The Advertising unit centers on a challenge--a statement that says, "Solve this problem." Its success or failure in a classroom depends largely on (1) the relevance of the problem for the students and (2) the process by which they define and accept the challenge. If the children see the problem as a real one, they will be committed to finding a solution; they will have a focus and purpose for their activities. If the students do not think the problem affects them, their attempts at finding solutions will likely be disjointed and cursory.

The Advertising challenge--"Find the best way to advertise a product or event that you want to promote"--is general enough to apply to many situations. Students in different classes define and reword the challenge to fit their particular situation and thus arrive at a specific class challenge.

For example, the Advertising challenge has been restated by some classes in terms of advertising a specific product such as a new soft drink or an event such as the opening of a school store.

The Process of Introducing the Challenge

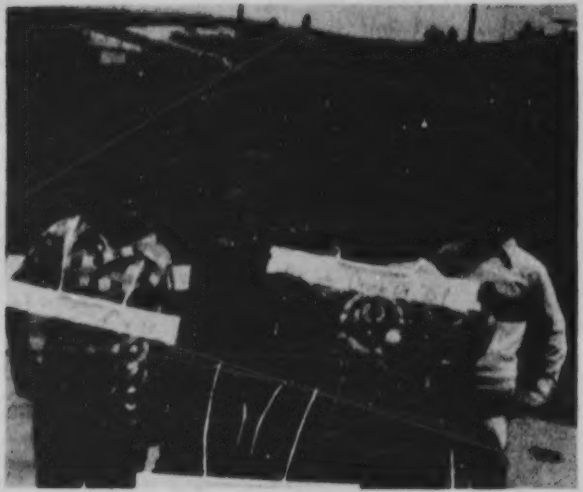
Given that an Advertising problem exists, how can a teacher, without being directive, help the students identify the challenge that they will work on as a group? There is no set method because of variations among teachers, classes, and schools. However, USMES teachers have found that certain general techniques are helpful in introducing the Advertising challenge.

One such technique is to turn a spontaneous discussion of a recent event or activity toward the Advertising challenge. For example, the Advertising challenge may be introduced during a discussion of ways to get other students to attend a play or sale being given by the class.

One fifth-grade class planned to have a bake sale to raise money for a camping trip later in the year. Because of some competition with other bake sales at the school, the students became involved in finding the most effective way to advertise their bake sale.

The Advertising challenge may also evolve from other classroom work.

After finishing a study of the four major regions of the world (Temperate, Tropical Rainforest, Desert, and Cold Lands) one fourth-grade class became interested in advertising each region in order to find out which region most students would like to visit. The class formed four groups, each of which presented an advertising program (utilizing posters, sandwich boards, miniature scenes, singing commercials, and skits) to the rest of the class.



Placards advertising sale of a soft drink, Jacqueline Schneider, Grade 6.

In another fourth-grade class the students frequently spent their reading periods trying to interest their classmates in books they had read. After discussing the different ways in which commercial advertisers promote their product, the class held an "Ad Day" for reading in which the students used various methods of advertising to promote their favorite books. As a result of interest generated by the "Ad Day," the class decided to form an agency to advertise school functions and activities.

Often, work on one challenge leads to another. For example, the Advertising challenge may arise from work on School Supplies, Growing Plants, Consumer Research, Manufacturing, or Soft Drink Design.

One fifth-grade class was having trouble promoting business in the school store they were operating. During a meeting to discuss the low volume of business, the class decided that one of the problems was that not all students were aware of either the store hours or the items for sale. The class agreed that an advertising campaign was in order.

A sixth-grade class worked on a Consumer Research challenge to determine which brand of peanut butter was the best buy. After conducting taste tests on various brands, the students decided to advertise the results of their peanut butter tests.

A primary class worked on the Soft Drink Design challenge and invented a new drink. They then decided to conduct an advertising campaign in their school to promote the sale of their drink. The students brainstormed for a catchy name and slogan. Various groups worked on posters and sandwich boards, a tape-recorded commercial for the intercom, a videotaped skit, and a school newspaper with ads for their drink .

When children encounter a problem that leads to a related USMES challenge, one group of children may begin work on the second challenge while the rest of the class continues with the first challenge. However, there should be at least ten to twelve students working on any one challenge; otherwise, the children's work may be fragmented or superficial or may break down completely.

Classroom experience has shown that children's progress on the Advertising challenge may be poor if the teacher and students do not reach a common understanding of what the challenge is before beginning work on it. This is particularly true if the challenge is treated as a series of study topics rather than as a real problem. Having no shared focus for their work, the children will lack the motivation inherent in working together to solve a real problem. As a result, they may quickly lose interest.

> *In one intermediate class, the Advertising challenge was treated as a study topic. Groups of students became involved in research activities such as writing to ad agencies for general information, comparing the percentages of advertising in various magazines, finding out radio and TV rates for advertising and determining the correlation between the popularity of ads and the amount of sales of products on the market. Although some students carried out extensive data collection, they were not working toward the solution of a real problem.*

Interest is higher in classes that start work on the Advertising challenge by advertising only one product or event. Classes attempting initially to advertise more than one product or event very often become disorganized and lose their focus. While working on their ad campaign, however, students should consider several possible methods of advertising and should be aware of the many resources available for their use (such as a tape-recorder). Using such resources, students often come up with novel and imaginative ways to advertise their product or event.

> *In one class advertising backpacks, a boy was able to borrow a child-sized mannequin. He dressed the mannequin and placed it (wearing a backpack) in the school lobby as an advertisement for the backpacks.*

Initial Work on the Challenge

Once a class has decided to work on an Advertising challenge, USMES sessions should be held several times a week, but they need not be rigidly scheduled. When sessions are held after long intervals, students often have difficulty remembering exactly where they were in their investigations and their momentum diminishes.

Often the students begin by listing various methods of advertising their product or event and the supplies and equipment needed for each method. In addition, the class may decide to determine factors that make up a good ad (e.g., simplicity, humor, bright colors) and may conduct a survey of others in the school to determine who would be most likely to buy the product or attend the event.

The children then set priorities for the tasks they consider necessary to the advertising campaign. Most of these tasks are carried out by small groups of children. It is important that priorities be set so that some groups do not become stalled in their progress because others have not completed their work. For example, a group working on posters will be unable to complete them until the time and place of the sale or event has been determined.

> *In one class working on the Advertising challenge, the Newspaper Group worked rapidly until they needed to know the sale date to finish their work. But the group choosing the selling date was unable to do so until they knew when the other groups planned to complete their work. As a result, the Newspaper Group was unable to continue and decided to work on other projects for a while. After some time, all of the groups were surveyed to see when everyone planned to finish and a sale date was chosen.*

As various groups complete their work, their members join other groups or form new groups to work on additional tasks.

> *In one primary class working on Advertising, the two groups responsible for the price of the soft drink and the time and place of the sale completed their work before the other groups. These two groups then merged to form the Mixing Group which was responsible for manufacturing the drink in the quantity needed.*

However, if too many groups are formed, work on the challenge can become fragmented. The teacher finds it impossible to be aware of the progress and problems of each group; in addition, the small number of students in each group lessens the chance for varied input and interaction.

Refocusing on the Challenge

As a class works on an Advertising challenge, the children's attention should, from time to time, be refocused on that challenge so that they do not lose sight of their overall goal. Refocusing is particularly important with younger children because they have a shorter attention span. Teachers find it helpful to hold periodic class discussions that include group reports. Such sessions help the students review what they have accomplished and what they still need to do in order to find some solutions to the problem. These discussions also provide an opportunity for students to participate both in evaluating their own work and in exchanging ideas with their classmates.

One problem that may limit the success of student work on the Advertising challenge is the fact that some classes may fail to evaluate the success of their ad campaigns or may not evaluate them carefully enough. Often students carry on more comprehensive investigations when they try to find the *best* way to advertise their product or event.

Resources for Work on the Challenge

When children try to decide on solutions before collecting and analyzing enough data or encounter difficulties during their investigations, an USMES teacher helps out. Instead of giving answers or suggesting specific procedures, the teacher asks open-ended questions that stimulate the students to think more comprehensively and creatively about their work. For example, instead of telling the students that a poster should be displayed in a specific location because many people pass there, the teacher might ask, "How can we find out the best places to put posters?" Other examples of non-directive, thought-provoking questions are listed in section B6.

When conducting an opinion survey to evaluate the different methods of advertising, students often fail to ask questions that will give them the information they need. By conducting the survey first within the classroom, they discover that questions with multiple-choice answers are usually more effective than questions with open-ended answers. In addition, when choosing a sample of students to respond to a survey, a class may find their sample is too small or is biased in some way. As a result, the survey may not indicate clearly which advertising method was the most effective. The teacher may wish to refer the students to the "How To" Cards *How to Choose a Sample for a Survey* and *How to Design and Analyze a Survey*. A list of those "How To" Cards pertinent to Advertising can be found in section D1.

If many students, or even the entire class, need help in a particular area, the teacher should conduct skill sessions as these needs arise. (In addition to the "How To" Cards, Background Papers provide teachers with information on specific problems that might arise, such as how to design an opinion survey.)

USMES teachers can also assist students by making it possible for them to carry out tasks involving hands-on activities. During work on the Advertising challenge, children may need to visit other classes to perform skits or make announcements, or they may need to conduct a survey to determine demand for their product or event. The teacher can help, if needed, by talking with other teachers. If the children's tasks require them to design and construct items, the teacher should make sure that they have access to a Design Lab. Any collection of tools and materials kept in a central location (in part of the classroom, on a portable cart, or in a separate room) can be called a Design Lab. A more detailed account of the Design Lab may be found in the USMES Guide.

Valuable as it is, a Design Lab is not necessary to begin work on the Advertising challenge. To carry out construction activities in schools without Design Labs, students may scrounge or borrow tools and supplies from parents, local businesses, or other members of the community.

Constructing a poster for a recycle center, Sherry Malone, Grade 8.

A combined class of fourth/fifth/sixth graders was able to meet the Advertising challenge without using the Design Lab. To promote their new soft drink, the students made posters and sandwich boards, wrote announcements for the intercom, and wrote and pre-

sented a live skit. They also used several advertising gimmicks, including discount certificates, coupons for free drinks, and special packaging for the drinks that were sold in powdered form. To attract attention while selling the drinks in fluid form, they constructed a carrying case with shoulder straps.

A class of fifth graders conducted several advertising campaigns to promote business in their school store without using the Design Lab facilities. Before the store opened, they divided into five groups to advertise using different media. Two groups worked on videotaped commercials, one group designed flyers to be sent home with each student, another group wrote an ad to be announced over the public address system, and the last group called the local newspaper to set up an interview. The rest of the students made posters. After the store had opened, the students continued to advertise through videotaped commercials, banners, free-standing posters, and balloons.

The extent to which any Design Lab is used varies with different classes because the children themselves determine the direction of the investigations.

Culminating Activities

Students usually continue to work on the Advertising challenge until they have completed their advertising campaign and the sale or event has taken place. They may then conduct a survey to determine which method of advertising was the most effective. After evaluating the survey, the students may list suggestions for improving their advertising.

Classes working on the Advertising challenge often decide to continue by advertising another product or event. They may advertise an activity being carried out by another class or they may form an ad agency and carry out many advertising campaigns for individuals and groups in the school or community, such as promoting the sale of pets, garage sales, or the use of the school library.

One combination fourth/fifth/sixth-grade class surveyed seven classrooms to assess the effectiveness of the various methods of advertising used to promote the sale of their soft drink. They found that most people learned about the sale through posters, with friends and "Take-One" handouts coming in second and third. Their advertising methods also included free samples, sandwich boards, window shade in the classroom, and coupons for money off and free drinks.

Another class evaluated the effectiveness of the seventeen campaigns they had run by interviewing the people who requested the ads and by looking at the results of the various sales and elections. After examining the data collected, the class decided that four of the seventeen campaigns were failures, twelve were successes, and no decision could be made about one because many other factors were involved.

3. USE OF ADVERTISING IN THE PRIMARY GRADES

Primary children enjoy working on the Advertising challenge because of their heavy exposure to advertising on TV. Because so many television commercials are aimed at young children, many primary students are aware of advertising claims and of the gimmicks (such as free toys) used to encourage children to buy a product. Although their investigations may not be as detailed as those of older children, primary children can conduct opinion surveys, take measurements, construct bar graphs, and design exciting and stimulating advertisements while using such diverse methods of advertising as flyers, posters, videotapes, public address announcements and skits.

Because primary children view the world as centered around themselves, it is especially important that the Advertising challenge focus on a product or event that is a part of the children's everyday experience. The class may wish to advertise some item they are planning to sell to others in the school, such as a new soft drink or plants that the children have grown in their classroom, or the children may wish to advertise a display they have created to encourage other classes to come and see it.

Once the children are involved in the challenge, the primary teacher may find that several short sessions every day are preferable to two or three extended periods each week. In this way, the children will not lose interest due to long periods of time between sessions.

Once a primary class has decided to advertise a product or event, the class might discuss what they think the characteristics of good advertisements are. They may wish to collect interesting ads from magazines and newspapers and then list those aspects that are particularly appealing. After discussing various methods of advertising the class may decide to work on one method at a time, or they may form groups to work on several methods of advertising the product or event. When the children form groups, it is important that they set priorities so that some groups do not become stalled because of lack of information or help from another group.

Primary children are able to work independently much of the time as they design and construct their ads, but the teacher should be aware of groups that may be having difficulty in developing a concrete plan of action, or whose work has become stalled because of unforeseen problems. Many times a short discussion with the group having difficulty will resolve the problem,

While many primary children do not possess fine coordination, they can, with planning and care, design and construct attractive ads. When working on sandwich boards, flyers or posters, primary children often make up a first draft on scrap paper before constructing a final version. This provides an opportunity for them to make corrections in spelling and layout and also provides the whole class with an opportunity to make suggestions for improvement.

The children may need assistance in obtaining information (such as prices) on the materials they need and in purchasing them. Although many primary children are capable of phoning various stores, the teacher can help by making sure the children think about what they will say before they actually telephone. Sometimes it is helpful for a child to write down what he or she plans to say before calling. If the children need to purchase materials, the teacher can help by providing supervision during a shopping trip.

In the course of working on Advertising, the children will gain many important language arts skills. They learn how to communicate information clearly and simply as they design posters and flyers, write scripts for tape recordings or intercom announcements, and create catchy slogans and names for their product or event. In addition they learn to communicate ideas in discussions and telephone conversations and to listen to the ideas of others. They learn to organize their ideas as they list the factors involved in creating a good ad and as they design opinion surveys. In designing posters, flyers, newspapers, etc., they see the need for legibility and correct spelling and grammar.

Advertising also provides many opportunities for children to learn and practice counting and computational skills. In one primary class, children counted and recorded how many children in other classes wished to buy their soft drink so that they might make an adequate supply. The children may also need to count votes or compute the responses on an opinion survey.

Children often need to find out the cost per unit of their materials and supplies in order to set a price for their product. Since this may involve division, the teacher may wish to give a skill session on slope diagrams so that the children can find the cost per unit without dividing. Slope diagrams may also be used to compare unit costs for different brands of the same item when they need to decide which brand is the best buy.

Primary children may also become involved in making simple measurements while working on the Advertising challenge. A group making posters may wish to measure the size of their poster in order to determine how much posterboard to buy, or they may wish to measure the maximum distances at which posters with different sizes of letters can be read. The children may use nonstandard measurements, such as lengths of string or paces, to perform their measurements, or they may learn how to use a ruler or a meter stick. The children may also wish to use stopwatches to time the length of skits, intercom announcements, tape recordings, or videotapes.

Tallying and graphing are easily introduced to primary children when they see the need to organize and make pictures of their information. They may wish to find out and show which slogan or design is preferred by their class or some other class as they begin work on Advertising.

Bar graphs may be made in a variety of ways by primary children to enable them to make a clear connection between the data and the picture. Children may use a colored square of paper or a wooden block to represent each child and paste or stack them in columns representing different preferences. The tallest column will then show the most preferred slogan or design. Many times primary children do not realize clearly that one slogan or design is strongly preferred over another until they can see such a visual representation of the numbers.

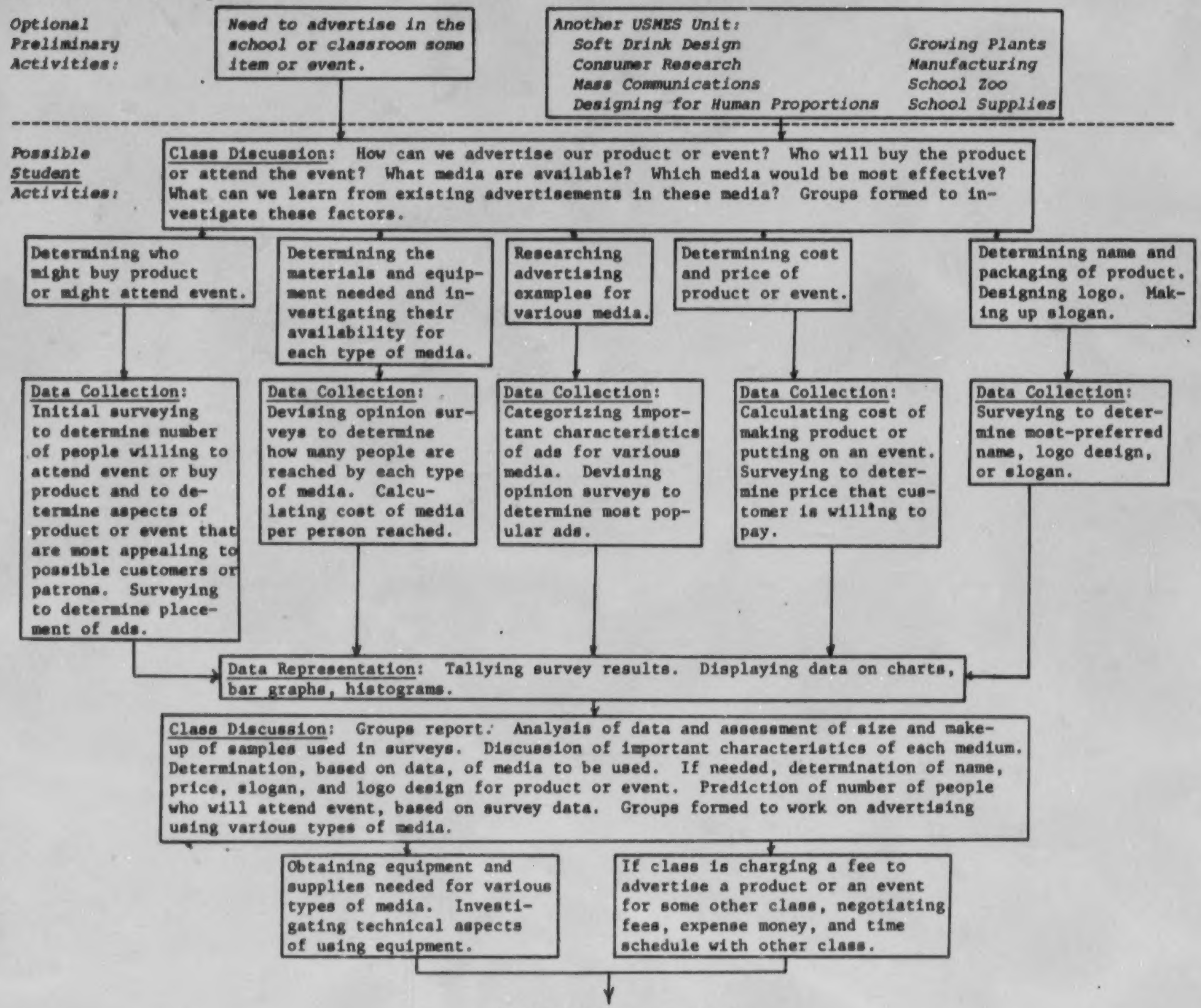
Experience in many schools has shown that primary children are able to work in the Design Lab and can use most hand and power tools, although care should be taken to instruct and supervise the students in their use. While working on the Advertising challenge, one primary class used the Design Lab to make sandwich boards and props for a videotape. Other USMES classes have used the Design Lab to construct Tri-Wall alphabet letters and background staging for a display.

4. FLOW CHART

The following flow chart presents some of the student activities--discussions, observations, calculations, constructions--that may occur during work on the Advertising challenge. Because each class will choose its own approach to the challenge, the sequences of events given here represent only a few of the many possible variations. Furthermore, no one class is expected to undertake all the activities listed.

The flow chart is not a lesson plan and should not be used as one. Instead, it illustrates how comprehensive investigations evolve from the students' discussion of the Advertising problem.

Challenge: Find the best way to advertise a product or an event that you want to promote.



Optional Preliminary Activities:

Need to advertise in the school or classroom some item or event.

Another USMES Unit:
Soft Drink Design
Consumer Research
Mass Communications
Designing for Human Proportions
Growing Plants
Manufacturing
School Zoo
School Supplies

Possible Student Activities:

Class Discussion: How can we advertise our product or event? Who will buy the product or attend the event? What media are available? Which media would be most effective? What can we learn from existing advertisements in these media? Groups formed to investigate these factors.

Determining who might buy product or might attend event.

Data Collection: Initial surveying to determine number of people willing to attend event or buy product and to determine aspects of product or event that are most appealing to possible customers or patrons. Surveying to determine placement of ads.

Determining the materials and equipment needed and investigating their availability for each type of media.

Data Collection: Devising opinion surveys to determine how many people are reached by each type of media. Calculating cost of media per person reached.

Researching advertising examples for various media.

Data Collection: Categorizing important characteristics of ads for various media. Devising opinion surveys to determine most popular ads.

Determining cost and price of product or event.

Data Collection: Calculating cost of making product or putting on an event. Surveying to determine price that customer is willing to pay.

Determining name and packaging of product. Designing logo. Making up slogan.

Data Collection: Surveying to determine most-preferred name, logo design, or slogan.

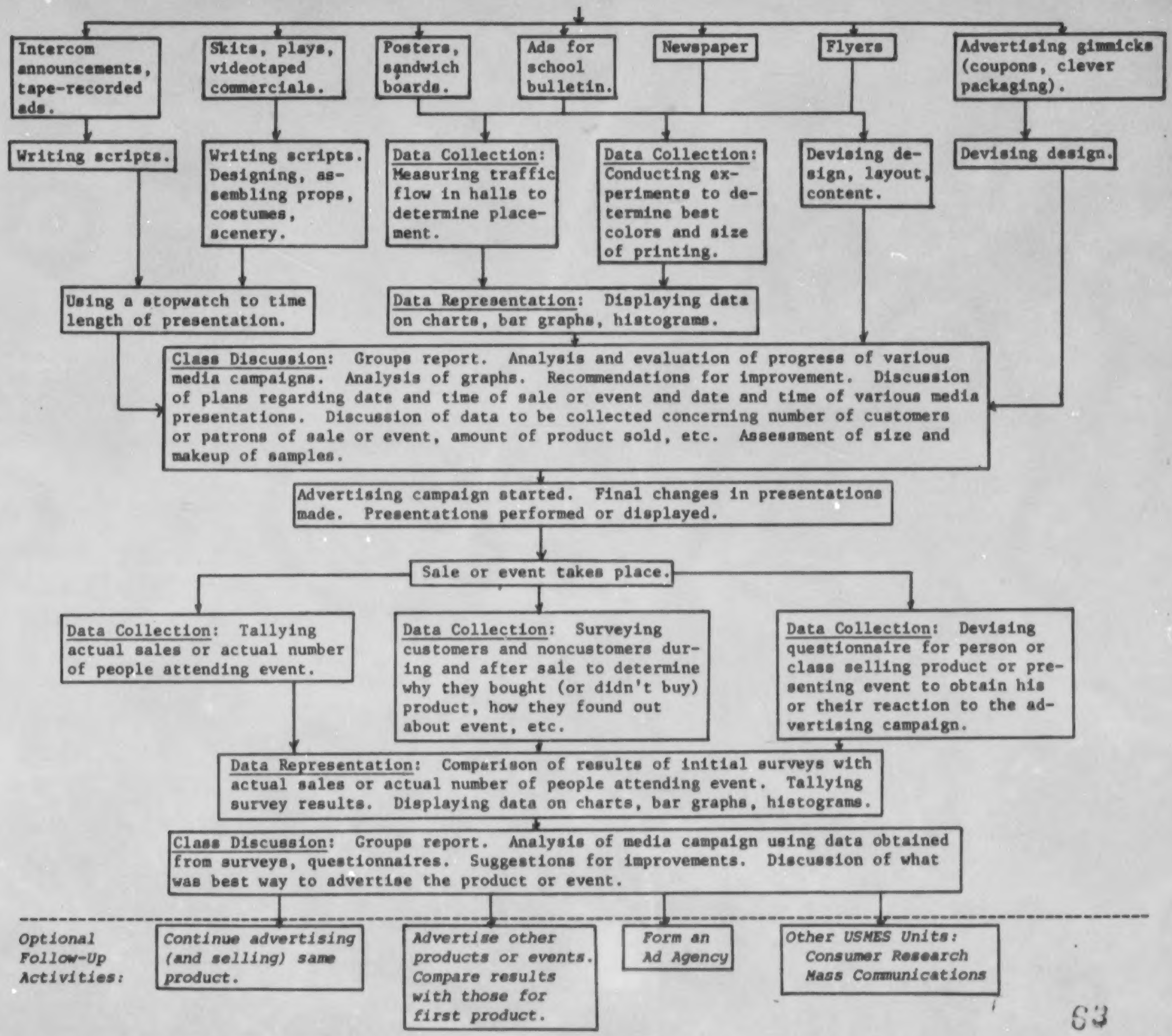
Data Representation: Tallying survey results. Displaying data on charts, bar graphs, histograms.

Class Discussion: Groups report. Analysis of data and assessment of size and make-up of samples used in surveys. Discussion of important characteristics of each medium. Determination, based on data, of media to be used. If needed, determination of name, price, slogan, and logo design for product or event. Prediction of number of people who will attend event, based on survey data. Groups formed to work on advertising using various types of media.

Obtaining equipment and supplies needed for various types of media. Investigating technical aspects of using equipment.

If class is charging a fee to advertise a product or an event for some other class, negotiating fees, expense money, and time schedule with other class.

(Continued on next page.)



Intercom announcements, tape-recorded ads.

Writing scripts.

Skits, plays, videotaped commercials.

Writing scripts. Designing, assembling props, costumes, scenery.

Using a stopwatch to time length of presentation.

Posters, sandwich boards.

Ads for school bulletin.

Newspaper

Flyers

Data Collection: Measuring traffic flow in halls to determine placement.

Data Collection: Conducting experiments to determine best colors and size of printing.

Data Representation: Displaying data on charts, bar graphs, histograms.

Devising design, layout, content.

Advertising gimmicks (coupons, clever packaging).

Devising design.

Class Discussion: Groups report. Analysis and evaluation of progress of various media campaigns. Analysis of graphs. Recommendations for improvement. Discussion of plans regarding date and time of sale or event and date and time of various media presentations. Discussion of data to be collected concerning number of customers or patrons of sale or event, amount of product sold, etc. Assessment of size and makeup of samples.

Advertising campaign started. Final changes in presentations made. Presentations performed or displayed.

Sale or event takes place.

Data Collection: Tallying actual sales or actual number of people attending event.

Data Collection: Surveying customers and noncustomers during and after sale to determine why they bought (or didn't buy) product, how they found out about event, etc.

Data Collection: Devising questionnaire for person or class selling product or presenting event to obtain his or their reaction to the advertising campaign.

Data Representation: Comparison of results of initial surveys with actual sales or actual number of people attending event. Tallying survey results. Displaying data on charts, bar graphs, histograms.

Class Discussion: Groups report. Analysis of media campaign using data obtained from surveys, questionnaires. Suggestions for improvements. Discussion of what was best way to advertise the product or event.

Optional Follow-Up Activities:

Continue advertising (and selling) same product.

Advertise other products or events. Compare results with those for first product.

Form an Ad Agency

Other USMES Units: Consumer Research Mass Communications

5. A COMPOSITE LOG*

This hypothetical account of an intermediate-level class describes many of the activities and discussions mentioned in the flow chart. The composite log shows only one of the many progressions of events that might develop as a class investigates the Advertising challenge. Documented events from actual classes are italicized and set apart from the text.

The class has been working several weeks to prepare for the opening of their store that will sell school supplies to others in their school. When they are just about ready for the opening, they realize that they must advertise it to attract customers. The teacher asks the class what types of advertising they have seen. The students quickly mention magazine ads, TV commercials, flyers, billboard ads, and free samples as common ways to advertise a product or event. After discussing which methods they can use to advertise the store opening, the students agree that posters, sandwich boards, flyers, and some sort of gimmick are good possibilities.

As the class continues to discuss the pros and cons of each method, one student remarks that flyers use a lot of paper and would probably produce a lot of litter in the school. Another student suggests using the intercom system to make announcements about the opening, and others in the class agree that this is a good method. One boy feels that the class should choose just one method of advertising and that the method should be posters. Another student asks, "How can we be sure everyone will read the posters? What about the little kids who can't read too well?" The class finally agrees that they should use several different ways to advertise.

Some students suggest that they should use a gimmick in their advertising. The class then lists the following ideas for a gimmick:

1. A catchy slogan
2. Coupons with money off on certain items
3. Free samples of some small item
4. Contest
5. Special sale of one item at a low price

The class discusses each idea but cannot come to a conclusion as to which gimmick to use, and so they decide to break into groups to brainstorm ideas that can be used with different types of advertising. Several students object because the class has not yet decided which types of advertising to use and has not determined a date and time for the opening of the store. "Let's decide these things right now," says one student.

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*Written by USMES staff

Many suggestions and questions are raised by the class:

1. We can vote on which types of advertising to use.
2. We should have a special gimmicks group to work on those ideas first, then when we make posters, we can use the gimmick on them.
3. Why can't we pick an opening date for the store? Are all the things we are planning to sell here now?

Finally one student says, "Let's decide these things one at a time. The store should not open until it is ready to operate and all items are priced. We need time to make up the advertising, too. I think we need about three weeks to get ready." The class agrees that three weeks is enough time, and the students set the date of the store opening for October 24, a Friday. One student comments, "Friday is a good day because we can advertise all week before Friday."

The class then discusses which types of advertising to use. The following ways are listed on the board:

Posters
Sandwich boards
Intercom announcements
Flyers
Gimmicks

The class decides that everyone should pick the type of advertising that they want to work on. Some students want to work in the Gimmick Group first and then work on sandwich boards or posters. Because only one student wants to work on flyers, the class decides that flyers should not be used. At the end of the discussion, a sign-up sheet is circulated and everyone picks a group to work in.

One girl suggests that they ask customers at the opening of the store which method of advertising they liked best. She states, "If posters win, then we will know that using the posters is the best way to advertise."

One combination fifth/sixth-grade class in Burnsville, Minnesota, decided to use six different methods to advertise their plant sale.

> *They planned to conduct an opinion survey during the sale to see which method was the most effective. (From log by Sandy Aken.)*

> *One sixth-grade class in Ocala, Florida, advertised their school book fair using the following methods: an ad in the daily memo for teachers, a banner placed in the school courtyard, posters, sandwich boards, public address announcements, and running a radio station in the school cafeteria (music interspersed with ads). After the book fair was over, the class sent a questionnaire to the other sixth-grade classes asking which ads were the most effective. (From log by Donald Werhner.)*

At the next session, the children go to their groups to begin working on advertising ideas. The Gimmick Group begins by discussing different gimmicks that could be used to attract customers. After considering using free samples, a special sale item, and coupons with money off, the group decides that the opening of the store is an exciting event in itself and that they should think up a slogan to attract people rather than give away items.

One girl still feels that the store should run some kind of contest for people who buy things. Every customer would receive an entry blank to be dropped into a box and then a name would be drawn. She states that the store would not lose much money by giving away one free prize. Another student suggests that each customer receive a coupon and the class that gets the most coupons would then receive a prize. This idea generates much discussion, and several variations are suggested:

1. Winners should be every class that has collected twenty-five coupons.
2. Give a prize to every class where all students have received at least one coupon.

Finally, one boy says that the store should give just one prize to the class that gets the most coupons.

> *An intermediate class in Durham, New Hampshire, carried out a number of advertising schemes for*

> *their Sweet 'N Tangy drink, including (1) posters, (2) "take one" handouts, (3) sandwich boards, (4) window shade ad, and (5) cigar box selling device. The class also produced coupons (to be given to every fourth customer) that could be turned in for a free drink or a drink at a reduced price. (From log by Jon Emerson.)*

The Gimmick Group finally decides that they should present the coupon idea to the rest of the class but that they should also make up a motto or catchy phrase to attract peoples' interest. The group decides that each person should think up some mottoes and then the group can vote on the best one. After working individually for about 20 minutes, the students' ideas are listed on the board:

Come to the School Store on October 24

We open the door on October 24

The School Store is Coming

Remember October 24

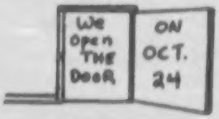
October 24 is Opening Day

The Opening you don't want to miss is
coming October 24

Pencils, pens, paper, pads and more on
October 24

One boy states, "We shouldn't mention the store. It should be a surprise. Then people will be curious and want to come to the opening." The group agrees to cross off those mottoes mentioning the store. After voting on the remaining ideas, the group decides to present "We open the door on October 24" as an official motto to the rest of the class.

Another student suggests that they put the phrase in a picture of an open doorway. He goes to the board and draws a sketch of his idea:



The Gimmick Group decides to present this idea to the whole class.

> *A combination fourth/fifth-grade class in Carmel, California, working on advertising California Crude, a new soft drink, made up over twenty slogans for their product. Some of the slogans were:*
>
> *A TASTE TO PUT A SMILE ON YOUR FACE*
> *CALIFORNIA CRUDE IS FAR OUT*
> *CALIFORNIA CRUDE IS OUT OF THIS WORLD*
> *IF YOU'RE IN THE MOOD, BUY CALIFORNIA CRUDE*
> *THERE IS NO SMILE LIKE A CRUDE SMILE*
>
> *The class voted on the slogans and CALIFORNIA CRUDE IS OUT OF THIS WORLD was chosen as the official slogan. (From log by Raymon Wilson.)*

> *One sixth-grade class in Boulder, Colorado, planning to open a school store decided that an element of suspense was needed in their advertising campaign. During a brainstorming session, one student suggested the motto "It's Coming" as a phrase that might work and the other students immediately supported the idea. The class then discussed a trademark for the store that could be used with the motto and came up with the idea of using a large abominable snowman type of footprint with the motto written inside. The trademark and motto were used extensively and successfully during the class' advertising campaign. (From log by John Limon.)*

From John Limon's class, Grade 6

The Poster Group begins by considering what they can do before hearing from the Gimmick Group. The teacher asks the group where they are going to put the posters. Some students feel they should be placed in the hallways. One student suggests, "We should put our posters where a lot of people will see them; so in the lunchroom would be good." After several other suggestions are made for places to hang the posters, one student says that the group should go to some of these locations and count how many people pass them in a certain amount of time. The group decides to check on eight of the suggested locations. After discussing the times during the school day that would be good to count people and the length of time they should spend counting students, they decide that counts should be made for five minutes at each location during the before-school period and during lunch hour. The group plans to do this the next day.

> *When one fourth-grade class in Monterey, California, discussed where their posters should be placed, they first guessed that the office and the library would be good places because lots of people passed there. They finally agreed that they could get data on the problem by (1) asking people where the best places are and (2) stationing people at certain places to count the students going by. After analyzing the data, the class decided to put its posters in the cafeteria, in the office, and outside of Room 20 where the traffic was heavy. (See log by Diane Sammet.)*

The Poster Group discusses how many posters should be made and what size they should be. After looking at some posters in the classroom, the group decides that eighteen inches by twenty-four inches is a good size for their posters but that they will not know how many to make until they have found out where they should place them.

The teacher then asks the group what they need to think about in order to design an effective poster. The group decides to cut out and discuss advertisements that appeal to them. After each student has cut out several ads, everyone in the group looks at the ads. They place the ads in general categories, such as humor, bright colors, animal pictures, and interesting printing. When they find an ad that seems to fit more than one category, they place it in the category that they feel is most predominant in the ad. The group discards several ads that seem to fit in two categories equally well.

The group decides to ask each member of the class to look at the ads and vote for the three that he/she likes best. After taking the ads around to everyone in the class, the group tallies the results. They find that ads in the categories of bright color, humor, and catchy drawings have received the most votes, and they plan to use these characteristics when they design their posters.

Sandwich board advertising soft drink
Donald Nelson, Grade 6.

The Monterey class recorded and categorized the attractive qualities of magazine ads they collected. The list of categories follows:

1. *Double message*
2. *Interesting faces*
3. *Pretty girls*
4. *Animals*
5. *Babies, young children*
6. *Mouth-watering pictures of food and drink*
7. *Simplicity*
8. *Clear information given*
9. *Interesting design*
10. *Humorous*
11. *Artistic*
12. *Good color*

The students frequently referred to this list when they designed posters for various advertising campaigns. (See log by Diane Sammet.)

A sixth-grade class in Edina, Minnesota, working on Designing for Human Proportions decided to hold an advertising contest in order to choose the best advertisements for chairs made by the class. After choosing two posters as the winners, the class observed that the winning ads had the features of uniqueness, bold colors, large clean lettering, and few words in common. (From log by George Coklas.)

The group working on sandwich boards decides that two sandwich boards will be enough. They discuss the shape and size of the sandwich boards and what could be put on them. The whole group likes the idea of having sandwich boards shaped like some article in the school store. Crayon boxes with crayons sticking out, notebooks, pencils, and erasers are suggested as shapes for the boards. After figuring that a sheet of Tri-Wall and some kind of fabric or tape for straps are the materials needed, the group decides to draw sketches of various shapes to show to the rest of the class.

The group working on intercom announcements brainstorms ideas for catching the attention of the other students in the school. They discuss different noises that they might make over the intercom (e.g., sound of a pencil breaking) as well as the possibility of making up a jingle. After making a list of all of their ideas, they decide that they should wait to hear from the Gimmick Group before making a final decision.

> *In one fifth-grade class in Howell, Michigan, a group working on slogans made up a poem that was a combination of all the ideas of the group. The group made a tape recording of the poem that they planned to play in the halls between class periods to attract the attention of other students to their bake sale. (See log by Janice Hable.)*

The groups report on their progress to the class. When the Gimmick Group tells the class about the motto and the open door, the whole class is enthusiastic. The Sandwich Board Group decides to make their boards in the shape of a door with a little window that opens up. The Intercom Group thinks of several songs about opening a door that they can use as background jingles and one boy suggests using the sound of a creaking door in the announcements.

When the excitement dies down, the Gimmick Group presents their idea of a coupon for each customer. The class likes the idea but feels that they should save it to use when business at the store becomes slow. "Besides," remarks one student, "if we are going to make a mystery out of the opening, then we can't advertise coupons for every customer."

The Poster Group tells the class about their plans for counting people at various locations and asks for volunteers to help them. They plan to draw up some poster designs using the motto to show to the class.

The Sandwich Board Group states that they also plan to show the class some designs for the boards. The class agrees with them that two boards are enough, but one girl suggests that they make one board for the primary grades and one for the intermediate grades. The Sandwich Board Group decides that they need to find out what the primary and intermediate grades would like on the boards. They plan to draw up some designs and survey one class from each grade to find out.

The Intercom Group decides that they will make up some sample announcements to read or sing to the class. As they have completed their task, all members of the Gimmick Group decide to join other groups.

NUMBER OF PEOPLE PASSING DIFFERENT PLACES

PLACE	NUMBER OF PEOPLE		
	BEFORE SCHOOL	LUNCH PERIOD	TOTAL
First floor hallway near Room 108	67	103	170
First floor hallway near Room 112	83	46	129
Office	99	64	163
Library	7	76	83
Cafeteria	3	125	128
Second floor near Room 220	53	35	88
Second floor near Room 201	27	38	65
Gym	24	45	69

Figure B5-1

The next day the Poster Group surveys the traffic flow at various locations in the school. They tabulate the results and make a chart to show to the class (see Figure B5-1). Then they work on sample posters for the class to consider.

At the next class discussion the Poster Group shows the poster designs that they have made. One member of the Poster Group says that the class should choose just one design for all of the posters because then the posters can be made quickly, assembly-line fashion. She argues that people will recognize the poster and won't have to read it each time to know what it's all about. Other students object, saying "They won't know what it's about anyway. We should make different kinds of posters to keep everyone curious about what is happening on October 24."

Finally, the class agrees that because of the time factor it would be better to use only one design. Each poster is numbered, and the students vote by putting the number of the poster they like best on a slip of paper. When the votes are tallied, two poster designs are almost tied for first place. After a brief discussion, the students decide to use both designs.

After each person in the Howell class had made an original poster, the class discussed how they could choose the best poster to use in their advertising. A number of ways were suggested:

1. *Place the posters on the floor and number them. Write the number of the poster you like best on a piece of paper.*
2. *Stand by the poster you like best.*
3. *Put an X on the poster you like best.*

After some discussion the class chose the first way. However, when the voting was over, most of the students wanted to use the top three posters as models rather than just one, and so the class chose to do this. (See log by Janice Hable.)

In a primary class in Iowa City, Iowa, that was advertising a soft drink, the Sign Group conducted an opinion survey of the rest of the class to learn

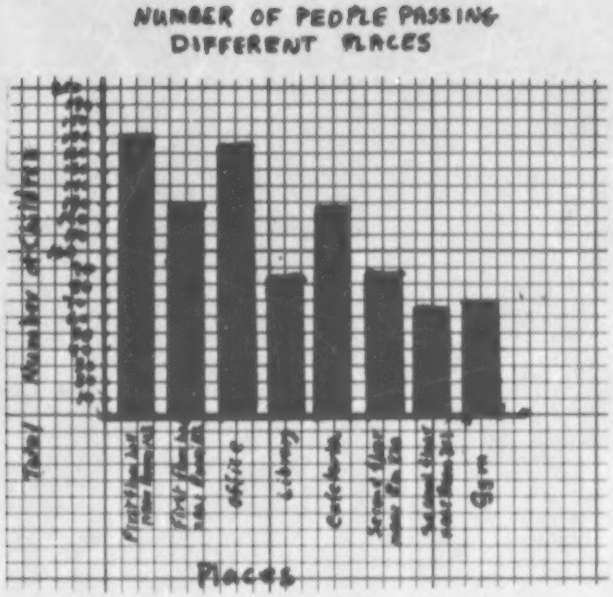
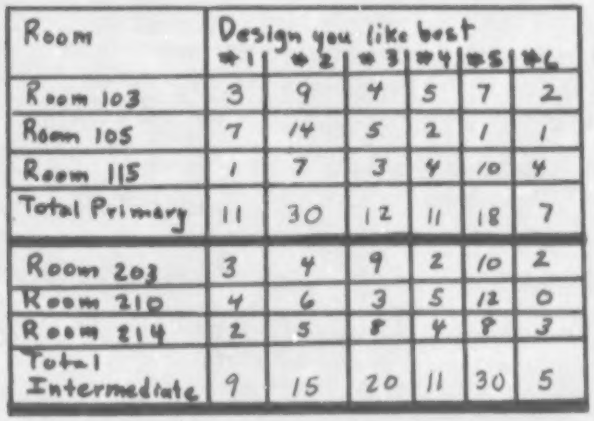


Figure B5-2



Room	Design you like best #1	#2	#3	#4	#5	#6
Room 103	3	9	4	5	7	2
Room 105	7	14	5	2	1	1
Room 115	1	7	3	4	10	4
Total Primary	11	30	12	11	18	7
Room 203	3	4	9	2	10	2
Room 210	4	6	3	5	12	0
Room 214	2	5	8	4	8	3
Total Intermediate	9	15	20	11	30	5

Figure B5-3

which types and colors of signs the students preferred. As a result of their survey, the group planned to make sandwich board signs to wear and poster signs to hang on the walls, all with bright colors. (See log by Rose Spaulding and Ralph DeLozier.)

The Poster Group displays the chart that they have made of possible locations for posters. The teacher asks, "How could we show this data more clearly?" One boy suggests making bar graphs. He explains to the class how to do this, and a group of students volunteer to help him make them (see Figure B5-2). The Poster Group decides that they should place posters in the four best locations shown by the graph.

The Howell class counted the number of people at different places in the school to determine the best places for posters. After discussing what they could do with the information collected, the class decided to record the information on bar graphs. When the graphs were completed, the class used them to find good locations for hanging posters. (See log by Janice Hable.)

One member of the Poster Group is concerned about the size of the letters on the posters. He states that with the size of lettering they have used so far, it may be hard to read the posters from a distance. The Poster Group decides to set up an experiment: they will use three different sizes of letters and measure the maximum distances at which each size of letter can be read. One boy volunteers to make up three sizes of letters (5, 10, and 15 cm) to be used in testing.

The Sandwich Board Group reports next on their survey (see Figure B5-3). They show the class the two designs that were preferred by the primary and intermediate students, respectively. (See Figures B5-4 and B5-5.) The class agrees that the Sandwich Board Group should make up two sandwich boards with those designs.

The Intercom Group reads and sings (with appropriate sound effects) two sample announcements to the class. The students like the announcements but feel that one of them is too long and that the members of the group need to practice

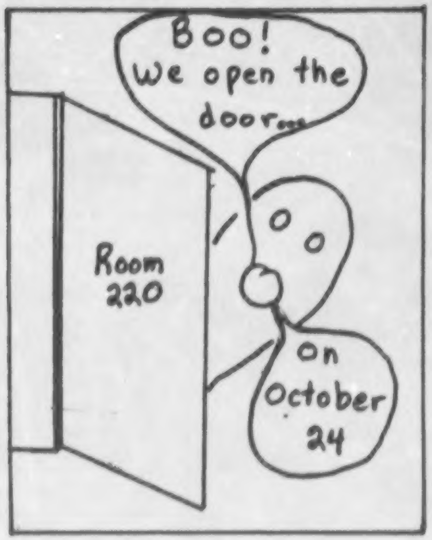

Boo!
We open the door...
Room 220
on October 24

Figure B5-4

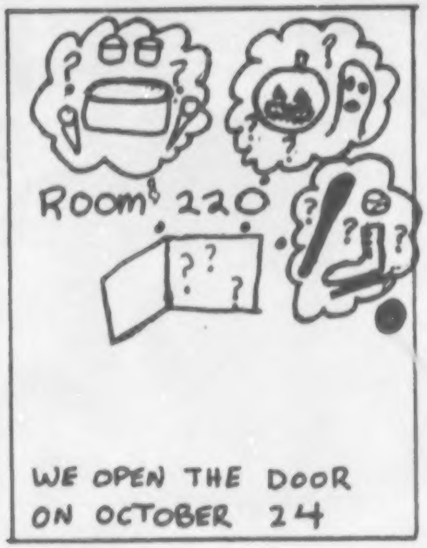

Room 220
WE OPEN THE DOOR ON OCTOBER 24

Figure B5-5

their reading and singing. They suggest going more slowly with more emphasis on certain words. The Intercom Group decides to ask the speech teacher for help with this.

One group in the Iowa City class made up a newspaper containing a front page, a sports page, comics, a "good books" section, and advertising. When several sections had been completed, a sample page was presented to the class for their approval. Members of the class made the following suggestions for correcting the crooked writing:

1. *Use lined paper underneath the page so you have guidelines.*
2. *Use a ruler to keep writing straight.*
3. *Use lined paper.*

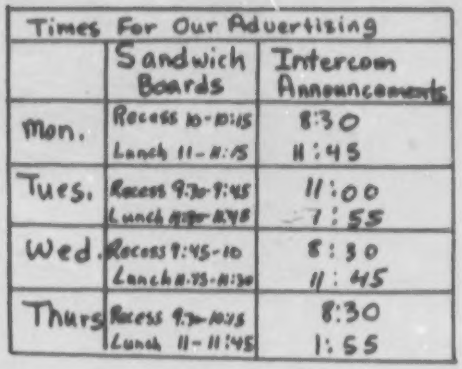
(See log by Rose Spaulding and Ralph DeLozier.)

Just as the discussion is about to end, the teacher asks, "When will you use the sandwich boards? When will the Intercom Group make their announcements?" The class agrees that some scheduling is needed because the Intercom Group must have the principal's permission to use the intercom and must arrange a schedule with him if permission is granted. The Sandwich Board Group decides that they will walk around on the playground during recess time and free period at lunch starting on the Monday before October 24.

The Poster Group wants to hang their posters as soon as they are completed. "People might get tired of looking at them," remarks one student. But the rest of the class votes to put the posters up as soon as they are ready.

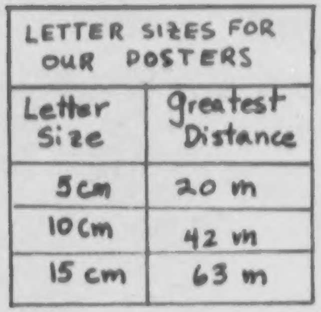
A week before the sale of their soft drink, the Iowa City class held a discussion to organize their advertising campaign. They mapped out the following plans:

1. *Sandwich signs--display at noon for five days prior to the sale and display once in each homeroom for those children who go home to lunch.*



Times For Our Advertising		
	Sandwich Boards	Intercom Announcements
Mon.	Recess 10-10:15 Lunch 11-11:15	8:30 11:45
Tues.	Recess 9:30-9:45 Lunch [illegible]	11:00 1:55
Wed.	Recess 9:45-10 Lunch 11:15-11:30	8:30 11:45
Thurs	Recess 9:30-10:15 Lunch 11-11:45	8:30 1:55

Figure B5-6



LETTER SIZES FOR OUR POSTERS	
Letter Size	Greatest Distance
5cm	20 m
10cm	42 m
15 cm	63 m

Figure B5-7

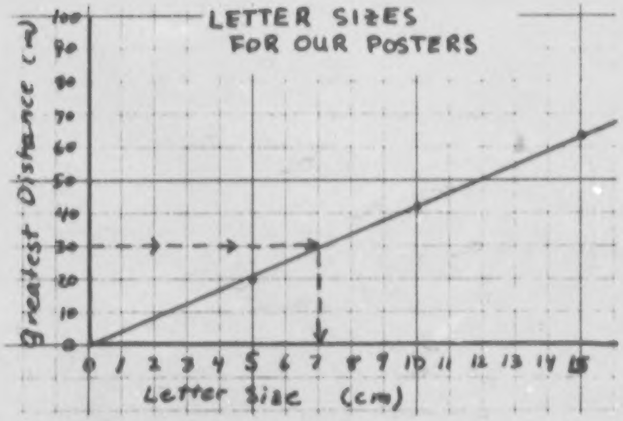


Figure B5-8

2. *Video and radio ads--show each, once per homeroom.*

3. *Newspaper--distribute to all students.*

Two students got in touch with each teacher to set up a convenient time for the ads and then drew up a schedule for the various groups. (See log by Rose Spaulding and Ralph DeLozier.)

One student reminds the class that they had planned to make up a questionnaire to find out which method of advertising attracted the most people. Several students volunteer to design a survey to be given to customers at the opening.

With all the important details settled, the class spends the next few sessions completing their ads and working on tasks that must be done before opening week arrives. Each group works diligently and when the big week comes, everything is ready. The Intercom and Sandwich Board Groups are both advertising according to the schedules they have made up. (See Figure B5-6.)

The Poster Group measures the maximum distances at which letters five, ten, and fifteen centimeters tall can be read and constructs a chart of their data (see Figure B5-7). After checking the various locations chosen to hang posters, one student states that it is not possible to view any of the posters at a distance greater than thirty meters due to the layout of the school. The group then decides to construct a line graph and interpolate (see Figure B5-8). They determine by the interpolation that the largest size of lettering needed is seven centimeters. The group then proceeds to complete and hang their posters.

Many of the students in the school are curious about what is going to happen on October 24 but the secret is kept. The children in the class tell others, "Wait and See. The door will open to Room 220 on October 24th."

A few days before the opening, the opinion survey is presented to the class (see Figure B5-9). The class makes the following suggestions for improving the survey:

1. Put in a space for grade level
2. Put instructions at the top so we don't have to tell people what to do
3. Make boxes for check marks

1. How did you find out about the opening?
   - Posters ___
   - Intercom ___
   - Sandwich boards ___
   - Friends ___
   - Other ___
2. Which method of advertising did you like best?
   - Posters ___
   - Intercom ___
   - Sandwich boards ___
   - The Gimmick (The Open Door) ___
3. What did you like best about the advertising? ___
4. What made you want to come to the opening? ___
5. What did you buy? ___

Figure B5-9

Grade ___

MARK ONLY ONE BOX WITH AN X FOR EACH QUESTION

1. How did you find out about the opening?
   - Posters ☐
   - Intercom ☐
   - Sandwich boards ☐
   - Friends ☐
   - Other ☐
2. Which method of advertising did you like best?
   - Posters ☐
   - Intercom ☐
   - Sandwich boards ☐
   - The Gimmick (The Open Door) ☐

Figure B5-10

4. Make it shorter because people won't want to spend a lot of time answering it
5. Take out the question about what did you buy because we can find out what has been sold by looking at what's left over

After some discussion the class also decides to delete the question that asks, "What did you like best about the advertising?" because it will take too long for the younger students to answer it. Two students volunteer to help primary students who can't read well to fill out the survey.

After making the suggested changes, the group working on the survey makes up a ditto master and runs off 200 copies. (See Figure B5-10.) Because there are about 600 children in the school, they feel that 200 responses will be enough to find out which advertising method is preferred. They plan to give the survey to the first 200 customers who come to the opening.

Opening day is a great success. The children sell out all their supplies of pencils, crayons, and erasers and have only a few of many other items left.

At the next session, the class discusses the opening and what to do next. They decide to form two groups, one to run the store and the other to work on further advertising. First, the Advertising Group decides to tally the opinion survey to determine which method of advertising was most successful.

A few days later the Advertising Group presents the results of the survey to the class. They have divided the surveys into a primary pile and an intermediate pile. They list the following information on the board:

Grades 1-3	62 (surveys)	Grades 4-6	93 (surveys)
Question 1: How did you find out about the opening?			
Posters	12	Posters	38
Intercom	21	Intercom	32
Sandwich Boards	26	Sandwich Boards	17
Friends	3	Friends	6
Question 2: What method of advertising did you like best?			
Posters	4	Posters	24
Intercom	15	Intercom	19
Sandwich Boards	23	Sandwich Boards	12
Gimmick	20	Gimmick	38

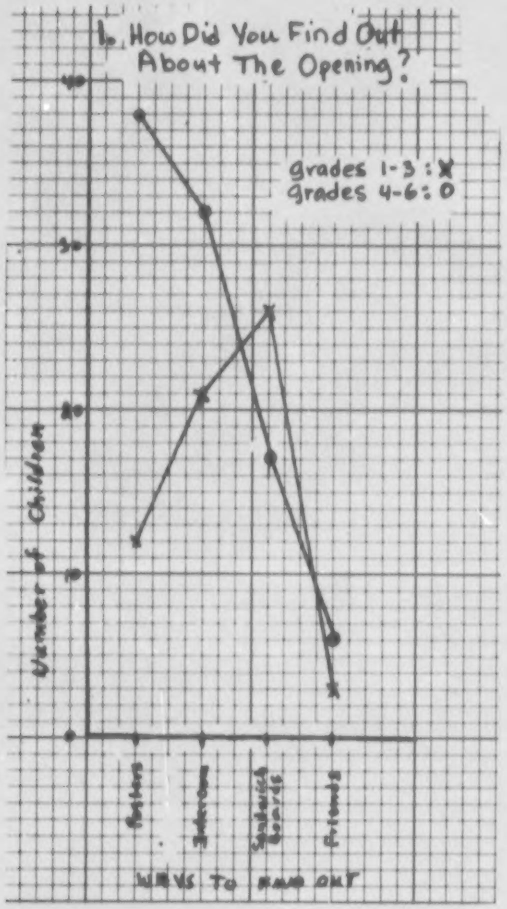


Figure B5-11

The Advertising Group also displays two line charts that they have made using the data from the two questions. (See Figures B5-11 and B5-12.) The group feels that Question 2 gave the best information and that the response to Question 2 indicates that a gimmick is the best way to advertise.

As the class discusses what the data means, one child points out that the posters and sandwich boards had the gimmick on them and that the intercom announcements used the gimmick, too, so that some children may have voted for these methods in Question 2 because they liked the gimmick. The class hypothesizes that a gimmick is the most effective way to advertise. One student states, "But we can't be absolutely sure because we only advertised one thing. Maybe a gimmick doesn't work so well all the time."

A sixth-grade class in Portland, Oregon, that was advertising a bake sale used three different methods: posters, room-to-room announcements, and a bulletin to be read by classroom teachers to each class. The class decided that the choice of the best method would be based on two criteria: the best method would require the least amount of time to prepare and would give the best information to other students. After their sale, the students computed the time necessary for preparing each method:

Posters - 1½ hours
Room-to-room - 20 minutes
Bulletin - 10 minutes plus 20 minutes for corrections

The class then discussed which method gave the best information and decided that the room-to-room announcement was best because classes could ask questions after the announcement and obtain all needed information. The class then concluded that the room-to-room announcements were the best method. (From log by Dorothy Springer.)

The Durham class conducted a survey to find out how students heard about their soft drink and which advertising method was most successful. The results indicated that most students learned about the soft drink from the posters and from friends, but the *class felt that posters and sandwich boards were the most effective advertising methods. (From log by Jon Emerson.)*

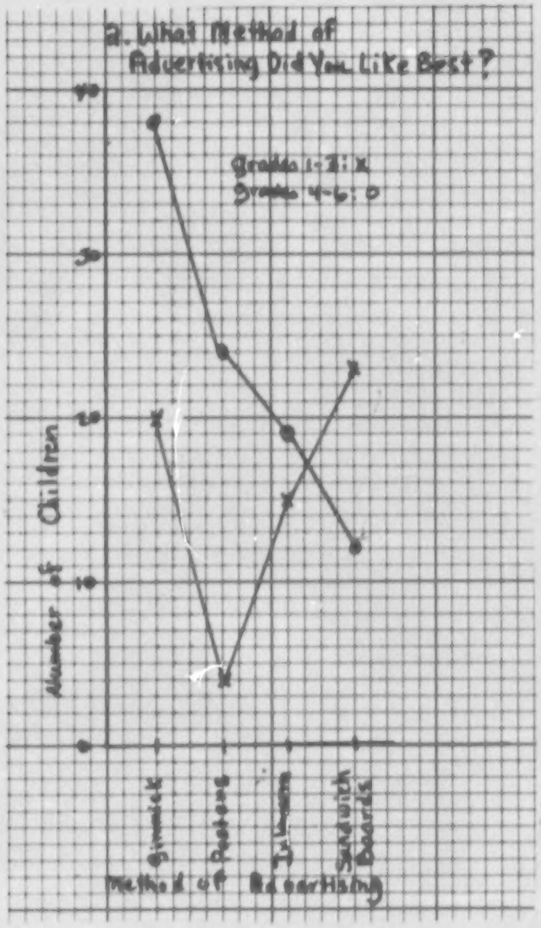


Figure B5-12

The group then tells the rest of the class that several students running for office in the school elections have asked if the Advertising Group would help them advertise their campaigns. Members of the Advertising Group also state that they would like to work on advertising other events in the school as well. One student suggests, "If we advertise different things, we can find out if using a gimmick *really* is the best method." The class agrees that the Advertising Group should work on advertising different school events as well as continuing to advertise the store.

The group decides that they will use only posters and sandwich boards, some with a gimmick and some with no gimmick to do their advertising since these methods are most popular according to the survey and they also take the least time and use few materials. They find that they can recycle their sandwich boards for other campaigns by repainting them and that both sides of posterboard can be used to make posters.

During the next few months, the Advertising Group carries out four pairs of campaigns with one campaign of each pair using a gimmick and the other using no gimmick. The results are as follows:

1. For school elections, the group runs campaigns for two fifth-grade students seeking office. Before they begin the campaigns, they take an informal poll of other students and determine that both students are equally popular. In their campaigns, they use posters with a gimmick (a clever slogan) for one student and sandwich boards with no gimmick for the other. When the student using posters with a gimmick wins her election and the other student loses his election, the group concludes that the poster with a gimmick was the better method.

2. The group advertises two tables at the school fair, the plant table and the bracelet and necklace table. They check the range of prices at each table and find that they are similar. The group uses posters to advertise

Cutting the ribbon at the opening of the school store, Margaret Hartzler, Kathleen Schultz, Grade 5.

both tables but uses a gimmick (discount coupons placed in a pocket on the poster) to advertise the plant table. The plant table makes more money than the bracelet and necklace table, and so the group feels that the gimmick was the better method here also, even though one boy points out that "only girls bought the bracelets and necklaces but everyone bought the plants."

3. When two second-grade classes decide to schedule tours of their classroom zoo and their new nature trail, the Advertising Group uses sandwich boards with a gimmick (register for a free gerbil) for the zoo tour and posters for the nature trail. More children sign up for the zoo tour than for the nature trails tour but the Advertising Group does not feel that they can come to any conclusion since sandwich boards are very popular with the primary children.

4. The group advertises two sales for the school store. For the first sale the group advertises with posters. For the second sale they also use posters but incorporate a gimmick into their advertising (a coupon given to every customer and the class that gets the most coupons wins a free game). The store makes more money on the second sale but the Advertising Group is not really sure if the gimmick was the reason since the store also began selling a number of new items that were very popular with the students a few days before the second sale.

On the basis of these campaigns the group decides that a gimmick was clearly more effective in two out of four campaigns but that they can not come to any conclusion about the other two campaigns. The Advertising Group decides that they need to run a few more campaigns comparing a gimmick with no gimmick before they can come to any conclusion about the best advertising method. They are now aware that when they compare two different campaigns, they must try to advertise things that have many factors in common (e.g., similar in price or popularity) in order to draw any positive conclusions about the results. However, the school year ends before they are able to carry out their plans.

The Monterey class evaluated the effectiveness of their various campaigns by interviewing the people who requested the ads and by looking at the results of the various sales, elections, etc. After looking at the facts collected, the class decided that four of their seventeen campaigns were failures, twelve were successes, and no decision could be made about one since there were so many other factors involved. After deciding not to count the campaign with questionable results, the class concluded that 3/4 of their campaigns could be called successful. (See log by Diane Sammet.)

6. QUESTIONS TO STIMULATE FURTHER INVESTIGATION AND ANALYSIS

- What can we do to get people to buy __(product)__ or attend __(event)__?
- What ways can we advertise our product or event (posters, sandwich boards, flyers, intercom announcements, skits)?
- What materials and equipment can we get to use in our advertising (tape recorder, ditto machine)?
- Which ways of advertising would be most practical (in terms of cost, time, number of people reached)?
- Who would be interested in our product or event? How can we find out?
- What kinds of advertising (e.g., posters, intercom) do people like? How can we find out?
- What information do we need to put in our ads? What should we put in our ads so that they will attract people?
- What should we do with our survey data? What kinds of graphs and charts could we make? How can we tell if our data is accurate enough?
- What materials do we need to make posters, sandwich boards, flyers?
- What things do we need to do to create a good ad?

Advertising a fashion show
Dianne Edwards, Grade 4

- How long should our intercom announcements (skit, tape recording) be?
- How big should our posters be? How can we figure out the best colors and sizes of letters for our posters and sandwich boards?
- How can we be sure that many people will see or hear our ads?
- How can we find out the best places to hang our posters?
- How can we make pictures of our data (on colors, sizes of lettering, and possible locations for posters)?
- When should we use the sandwich boards? When will the intercom announcements be made?
- What advertising gimmicks (clever packaging, free samples, catchy wording, contests, discount coupons) could we use in our campaign?
- How much money should we spend on our campaign? If we run a campaign for others, how much should we charge?
- What laws regulate advertising? How can we find out?
- How can we find out if our advertising was effective?
- How can we find out which advertising method was best?
- How can we set up an experiment to compare different ways of advertising? What new data do we need to collect?
- What improvements could we make in our advertising? How can we make ads that can be recycled, that take a short time to make up?

C. Documentation

1. LOG ON ADVERTISING

by Rose Spaulding and
Ralph DeLozier*
Ernest Horn School, Grades 2-3
Iowa City, Iowa
(January-April 1975)

ABSTRACT

This class of second and third graders worked on Advertising about three times each week during the second half of the school year after completing a Soft Drink Design challenge during the first half. The children listed what they needed to know to advertise the drink they had invented and then formed groups: some to gather information, some to begin exploring advertising possibilities. To learn some basics, children listened to and viewed audiovisual materials, observed and analyzed TV commercials and magazine ads, questioned two class visitors--an attorney and the owner of a local advertising agency, and frequently discussed the elements of effective advertising. Two of the groups visited the civic center to find out about relevant legal issues. Surveys were conducted to choose a catchy name for the drink, to determine which types of signs would be attention-getting, and to assess the market for their product. The class dealt with ethical issues: how much to charge, how much to fill the cup, whether the name accurately represented the drink. The class handled the logistics of the advertising campaign and of the sale, surveying to find how many drinks would be bought, deciding when and where to show the various ads, and selecting a place and date for the sale. The children's advertising campaign included sandwich signs, a videotaped ad, an audiotaped ad, and a newspaper. After the class sold 215 drinks at the sale, they agreed that the campaign was a tremendous success. In reviewing their work, the children pointed out that they had learned math, reading, spelling, art, civics, record-keeping, and thinking as well as skills in cooperating with others, operating machinery, and comparative shopping.

After completing a Soft Drink Design challenge during the first half of the school year, my class began the Advertising unit by exploring this question: Now that we have a

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*Edited by USMES staff

soft drink, what do we do? Initial responses included the following:

1. Sell it.
2. Name it.
3. Make a lot of it.
4. Get some place to sell it.
5. Figure out how much we can sell it for.

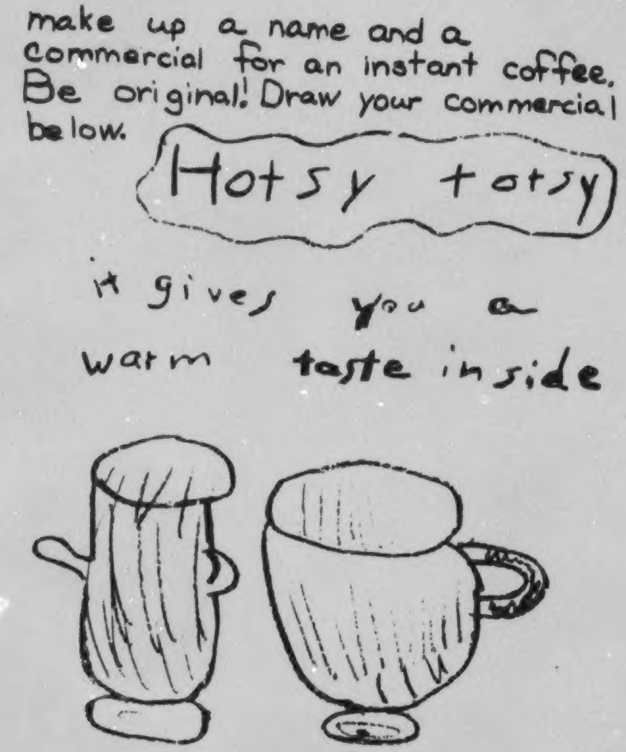
Prompted by my reminder about a previous discussion of bake sale procedures, one boy suggested advertising, and the class followed this with ideas about how we could advertise. The children discussed the pros and cons of making a newspaper, a videotape, a radio commercial, and signs. To sell our drink, we needed a name for it, said one student, and most agreed with him. After discussing various methods of naming the drink (e.g., voting, drawing names from a hat) I asked the class to think about the ways suggested; meanwhile, we decided to refocus on our challenge of advertising our drink in the best way.

First, I asked the class what we needed to know about the drink before we advertised. Students gave these responses:

1. Name the drink.
2. How much to sell it for.
3. What do we put it in?
4. Where do we sell it?
5. When do we sell it?
6. How do we sell it?

We decided to break into nine groups: some groups to work on things to do, some to work on ways to advertise.

1. Newspaper--begin making a newspaper that will contain ads for our drink.
2. Signs--take a survey to find out the best kind of sign.
3. Notes--make notes for putting on cars, but first find out about legality.
4. Video--find out what makes a good commercial.
5. Radio--go to a radio station.
6. Bumper stickers--find out how to make up slogans and how to manufacture stickers.
7. Name--develop a survey to decide on the best name (several had already been suggested).



make up a name and a commercial for an instant coffee. Be original! Draw your commercial below.

Hotsy totsy
it gives you a warm taste inside

Figure C1-1

8. Price--go to the store, get prices of items, make a drink, and figure out cost before setting price.
9. How/when/where--take a survey to find out the best time for selling.

Interdependency of groups inevitably led to some floundering.* For example, the Newspaper Group worked rapidly until they needed information (e.g., the selling date) to continue, but the group choosing the selling date couldn't do so until they knew when all the other groups would finish. To alleviate the problem, I allowed those groups delayed by other groups to work on other subjects. Compounding the problem, some groups had difficulty setting a finishing date and developing a concrete plan of action, perhaps because they lacked a background in advertising.

As a start in filling this gap, our media specialist suggested a set of materials featuring the tape, *A Message From Our Sponsor* (K105-8, Coronet Films, Chicago, Illinois). The tape took students step-by-step through an advertising session, explaining and giving examples of five concepts:

1. product name
2. slogan
3. identification with a notable person
4. the promise
5. the audience

We reviewed these items and then each child sketched an ad (including product name and slogan) for a fictitious instant coffee (see Figure C1-1).

Another audiovisual aid also helped bolster the students' advertising background. *Toothpaste Millionaire* (taped from an afternoon television program and based on a book by Jean Merrill) detailed the advertising problems encountered by a boy and his friends when they decided to make and sell inexpensive toothpaste. Our follow-up discussion turned to legal issues involved in advertising and selling.

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*The children might decide in a class discussion that they should give first priority to certain tasks, such as deciding on a name for the drink, and let other work wait until these tasks have been completed.--ED.

STUDENT: If we sell our drink, how do we know whether or not our drink will be against the law?

STUDENT: It uses other products so it probably won't be.

TEACHER: If we sell door-to-door, will it be against the law?

Class opinion divided on this question: half felt yes and half, no.

An attorney, the father of one student, visited our class to discuss some of these legal matters. Students fired questions concerning whether we needed permits to sell door-to-door, put bumper stickers on cars, put slips on car windows, hand out notes to people on downtown streets, publish a newspaper, and put signs in yards. They also inquired about the cost and availability of permits.

From their session with the visiting lawyer, the students decided to assign someone to obtain the following permit information:

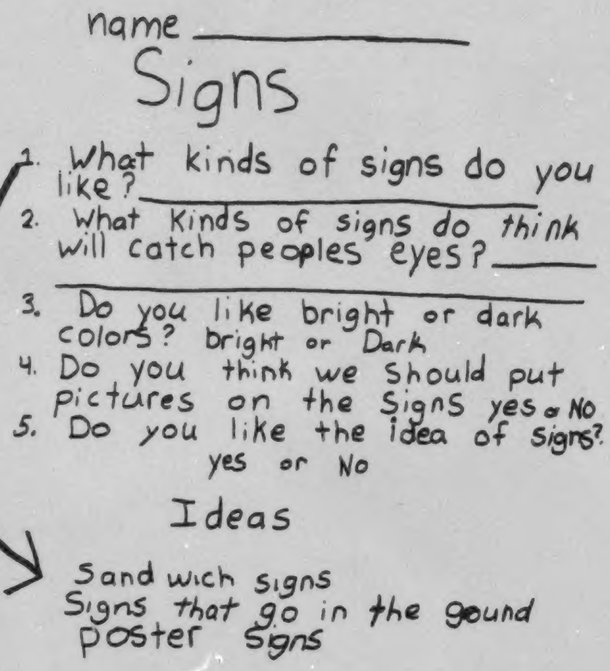
- How can we get permits to go door-to-door and to put up signs?
- How much do permits cost?

This responsibility fell to the Bumper Sticker Group which was on the verge of dropping the sticker idea. The newly named Permit Group made arrangements for visiting the civic center to get our questions answered.

Before the visit, another group, the How/When/Where Group, also realized the need for some information from the government. This group wanted to know whether dispensing our drink in paper cups would be sufficiently sanitary and whether we could use commercial brands of pop in our drink without getting permission. After a brief discussion about which level of government--city, county, state, or federal--to approach, the How/When/Where Group decided to accompany the Permit Group to the civic center.

Returning from their field trip, the groups reported to the class:

1. It's illegal to put signs up in yards, so we can't advertise that way.
2. We need a city permit to sell the drink door-to-door. The permit costs $15 per person (vendor).



name ______

Signs

1. What kinds of signs do you like? ______
2. What kinds of signs do think will catch peoples eyes? ______
3. Do you like bright or dark colors? bright or Dark
4. Do you think we should put pictures on the signs yes or No
5. Do you like the idea of signs? yes or No

Ideas

Sand wich signs
Signs that go in the gound
poster signs

Figure C1-2

3. We can put notes on car windshields for advertisement.
4. We probably should sell the drink in paper cups.

I indicated that with this information we could decide who our customers would be: the public, the school, or both. Before voting began, one boy questioned why we should sell the drink at all. "It teaches us a lot and we have a good drink and something to share with others," responded one student, who also noted that we needed to recoup some of the money we had spent designing our drink. When discussion ended, the class voted on the selling issue with these results:

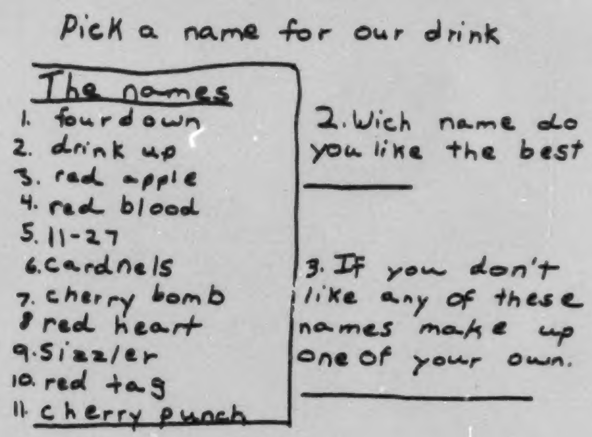
Public - 1 School - 19 Both - 5

Thus, we planned to focus our advertising campaign exclusively on the school population.

During the same session, the Video Group showed the advertisement they had made to promote our drink. (The group had made arrangements to use the school's video equipment and had written a script.) After viewing the tape, the class offered some positive suggestions to the commercial makers:

1. Talk louder and clearer.
2. Center the camera on the subject.
3. Give the price for the drink.
4. State reasons that the drink is good.
5. Travel to a few more places.
6. Make it more exciting.
7. Make it more real.
8. Have a more realistic background.
9. Make the ad longer.
10. Look at the audience.

The video crew set out to redo the tape. This group usually lacked discipline (five of the six boys had varying degrees of learning problems). To help them get on the right track, I sat with them and we brainstormed good "sell" words. From words, we moved to phrases and then to sentences. This brainstorming session stimulated their interest and imaginations. In later sessions, they worked in the Design Lab, building a background set consisting of shelves for groceries.



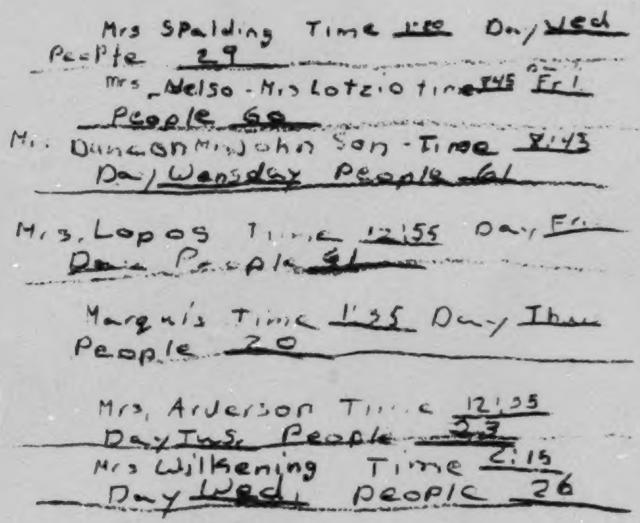
Pick a name for our drink

The names
1. fourdown
2. drink up
3. red apple
4. red blood
5. 11-27
6. cardnels
7. cherry bomb
8 red heart
9. Sizzler
10. red tag
11. cherry punch

2. Wich name do you like the best

3. If you don't like any of these names make up one of your own.

Figure C1-3



Mrs Spalding Time 1:00 Day Wed
People 29
Mrs Nelso - Mrs Lotzio time 1:45 Fri
People 60
Mr. Duncan Mrs Johnson - Time 2:43
Day Wensday People 61
Mrs. Lopos Time 12:55 Day Fri
Day People 31
Marquis Time 1:35 Day Thu
People 20
Mrs. Anderson Time 12:55
Day Tus. People 33
Mrs Wilkening Time 2:15
Day Wed. People 26

Figure C1-4

Meanwhile, other groups made progress too. The Sign Group surveyed the class to learn which types and colors of signs students preferred.* (See Figure C1-2.) The group chose to make sandwich board signs to wear and poster signs to hang in the halls. The children made first drafts on thin paper, then redrew their designs on larger and heavier sheets as preparation for drawing the final copies on Tri-Wall sandwich signs. In the Design Lab they began constructing the sandwich signs, planning to make them all the same size until they realized that each group member would require an individually-fitted sign. They broke into two groups of three, with each group working cooperatively on one tailored sign at a time. For each sign, the children wired together two Tri-Wall sheets.

The Name Group chose to poll all students in the school before choosing the final name for our drink. Children in this group prepared a survey form (see Figure C1-3). Then they spoke with teachers after school hours and set up a systematic schedule for surveying all the classrooms (see Figure C1-4). However, the group members themselves were not always free at the appointed surveying times (they had failed to check this). Although this oversight slowed their progress, the children took the survey and tallied the results. "Cherry Bomb" was the favorite name. When the group presented this choice to the class, some students expressed concern that the name included the word cherry, yet the drink contained no cherry flavor. (It consisted of 7-Up, strawberry pop, Tang, and food coloring.) "But it's red," retorted a member of the Name Group. After further discussion the class accepted "Cherry Bomb."

The Radio Group taped their five-minute, nonscripted commercial, which used the man-on-the-street approach to show different reactions to the drink. The class listened to the tape and this discussion followed:

TEACHER: Do you think it is a good length?

STUDENT: Too long, too long!

STUDENT: How many people (on the tape) said it wasn't a good drink?

STUDENT: It was equal.

TEACHER: Do you think that they would put this as a commercial on the radio?

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*The children might make bar graphs of their data. They might also discuss whether older children would prefer the same colors and types of signs.--ED.

STUDENT: Just as many people said they liked it (the drink) as they didn't--it makes it honest, and honesty is good.

STUDENT: I don't think it is a good idea to say "skunk stuff."

STUDENT: I didn't want it to get boring.

TEACHER: What can the group do to make it better?

STUDENT: Make the voices more exciting. If they are in New York interviewing people on the street, there would be horns beeping. You can get records of sound effects.

STUDENT: You talk about "seeing." I can't "see" because it's on radio instead of TV.

The group went to work remaking their commercial. Ignoring some of the criticism of their first attempt, this time they made a thirty-minute tape.

An assignment I gave the class helped the Radio Group shorten its ad. I asked the students to write down the lengths of at least three commercials. In class, we found that the times ranged from twenty to ninety seconds, with thirty seconds being the most common length. The self-appointed leader of the thirty-minute radio commercial said this information would be particularly helpful to his group.

The Newspaper Group decided to publish a paper containing a front page, a sports page, comics, a "good books" section, and advertising. The children had to postpone working on some pages because (1) the "news" would become outdated by the time of publication or (2) the information they needed from other groups wasn't ready yet. Members of the group investigated production costs; one boy reported these figures obtained from the school office:

purple master	$ .60 each
paper	$1.70 for 500 sheets

Since the photocopier at the public library cost ten cents per sheet to use, the group chose to print the newspaper in the school office. Coming into possession of a large roll of thin paper reduced production costs for the group, but cutting the paper into sheets suitable for the duplicating machine in the office became the group's major task. The children also spent quite a few sessions counting sheets.

When they had completed the "good books" section, the group members presented a sample page to the class. The boy who had written the page had generated the list of books by asking his brother and friends for the names of good books. Since he had not read the books himself, he did not, as someone had suggested, write a description of each book. Among the many class comments were the following suggestions for correcting the crooked writing:

1. Use lined paper underneath the page so you have guidelines.
2. Use a ruler to keep writing straight.
3. Use lined paper.

After the discussion, the group members talked among themselves about whether to publish game scores. One boy stressed that they must include the scores for girls' games as well as boys' games.

The Price Group went on a comparative-shopping field trip to find the best prices for the drink ingredients. Computing the cost for a specific amount of our drink in accordance with the recipe proved a monumental mathematical undertaking for the group's three members. (Inflation didn't help either; changing prices made it difficult to figure costs accurately.) Sometimes I gave the children a lot of assistance; other times they found their own ways to overcome difficulties. For example, when they needed to know how one quart compared with thirty-six ounces, they found their answer by measuring water into a one-quart container, one cup (8 ounces) at a time.

The Price Group finally arrived at a figure of twelve cents for one "recipe" (eight ounces), not including the cost of a paper cup. One recipe consisted of:

½ cup 7-Up
½ cup strawberry pop
3 tsps. Tang
3 drops red food coloring

The How/When/Where Group had not decided upon the cup size. Held up by this indecision, the Price Group worked on getting in touch with an advertising agency to have a representative visit our class.

Professional advice always helps, and so when the owner of an advertising agency in town visited our class at the Price Group's request, the students had many questions. Some children asked what advertising agencies do. After our visitor spoke about his one-man agency and about larger agencies, he pointed out four important steps in an advertising campaign:

1. Try to pick the best name for your product.
2. Try to think up a good slogan or catch phrase--"It's so tasty you can't put it down."
3. Consider where you want the ads to appear. Where is the market?
4. Consider how to advertise--posters, tapes, give-aways, videotapes, etc.

STUDENT: What kind of advertising do you suggest we use?

VISITOR: One thing when you advertise--you try to do it in as many ways as possible, but you don't want to spend more money than you make. I would recommend that you consider posters, large and small, and these should catch attention. Another idea is little tokens printed with the name of the drink. If someone buys a drink, he gets a token; if he buys another drink, he gets another. This encourages people to buy more drinks and it also keeps the name of the drink before people.

STUDENT: Where would we get the tokens?

VISITOR: I was assuming that you would make them.

STUDENT: Is it hard work?

VISITOR: To be quite frank, yes, it is.

Our visitor then explained the elements of good magazine ads as he showed the class examples he had brought:

1. Show product and name.
2. Catch the eye--visual portion of ad should be big.
3. Capture the imagination through the use of words (like "juicy").
4. Color--use color when you can, but the color of the background should not interfere with the color of your product. When you can't use color (as in a newspaper), describe the color in words to catch attention.
5. Good slogan--choose words carefully.

Members of the Radio Group asked about radio commercials and then performed a live excerpt to get suggestions from our visitor.

VISITOR: You walked up to him and said, "Do you want to try this new drink?" You might say instead, "Do you want to try our zesty, peppy, new drink?"

STUDENT: You mean put some thrill in it?

VISITOR: That's right. You have to get the attention of the radio audience. In another part, you asked the man if he liked the color. On the radio, you can't see the color, so how about saying, "How do you like its deep red color?"

Our guest also stressed repeating the name and slogan as often as possible in a radio ad.

STUDENT: You mean that you might say it (slogan) at the beginning and again at the end in case they forgot?

VISITOR: Right, because people are doing other things when they are listening to the radio.

For the remainder of the session, children suggested slogans for our drink:

> Cherry Bomb blows your mouth off.
> Cherry Bomb gives you a boom.
> Cherry Bomb explodes in your mouth with flavor.
> It explodes cherry in your mouth.
> Explodes with flavor and happiness.

In a later session they chose as their official slogan: "Cherry Bomb takes away all your thirst--with a burst."

As he prepared to leave, our guest urged the children to look at newspapers and magazines to find ads that catch attention. Then try to figure why those ads caught your attention and what made you look at them, he emphasized.

Much of what the advertising agent said was new to the class; part of it reemphasized points we explored earlier. In a previous session, we had discussed newspaper, radio and TV ads that the children had noted at home. We compiled a list to show which elements of a good ad and which things to say about a product apply to each media.

Elements	Newspaper	Radio	TV
color	x		x
humor	x	x	x
cartoons	x		x
play on words	x	x	x
catchy words	x	x	x
singing		x	x

Things to Say	Newspaper	Radio	TV
Inexpensive	x		x
Good for you	x	x	x
Tastes good	x	x	x
People like it	x	x	x
Something new	x	x	x
Looks good	x		x
Pleases someone else	x	x	x
It works (tell how or prove)	x	x	x

To further help them pinpoint the elements of effective advertising, I showed the children a film composed of TV commercials for nationally advertised products. I asked the children to consider the following questions while viewing the commercials:

1. Do they have a lot of people in the ad?
2. What do they do with the slogan?
3. How often do they repeat the product name?
4. What do they do to capture your attention?

After attentively watching the film, children commented on what they had noticed:

1. The picture of the product was usually large.
2. Jingles were used to get attention.
3. At the beginning of each commercial, the name of the product was mentioned.
4. One commercial (about plastic wrap) showed "utility"--the product can be washed and reused.

Many commercials, the children agreed, appeal to the viewer as a certain type of person: "As an active, happy person, you will like this." Following a second showing the children offered further comments, and I noted on the chalkboard some of the basics they mentioned:

1. Set the stage.
2. Tell about product.
3. Repeat name.
4. Use slogan.
5. Have music in background.

I pointed out that this list represented a formula, similar to the recipe they had developed for their drink; each item represented an ingredient for effective commercials. The class agreed that although a commercial repeats the name and slogan of the product, the announcer uses many different ways to say how good the product is. The children realized that their own ads used the same words over and over.

In contrast to learning practical points, we examined another aspect of advertising and selling--ethics. Through the public library, I obtained a copy of *Brand Names and Labelling Games* (Benchmark Films) a nine-minute, color film that warns consumers of traps associated with attractive packaging, brand names, and misleading labels. After discussing how to be wary consumers, we focused on whether we should fill cups completely when we sell our drink. Students decided they must give a "fair deal" or customers wouldn't buy again.

Films, class discussions, and our guest speaker all influenced the ads being developed by the various groups. Both the Video and Radio Groups incorporated self-composed jingles into their commercials. Three violin players in the Video Group supplied musical accompaniment for the TV jingle, whereas the Radio Group relied on bells. Flat voices presented problems at first, but, thanks to the cooperation of our music teacher, singing of jingles drastically improved.

The Radio Group had trouble deciding who would sing the jingle, but they resolved this by asking the class to vote on three possibilities for singers:

1. people who made the jingle
2. someone who wants to sing it
3. the whole radio show

Because most felt the second choice was fairest, the Radio Group recruited some volunteers. Some group members, who had approved the jingle earlier, said they didn't like it, but they later became singers. For the final recording, one child timed the ad (thirty seconds), another operated the tape recorder, one played the bells, and the remaining six sang the jingle.

The Video Group had comparatively few problems, the major one being the drowning out of voices by the violins. Boosting the voices and the number of singers helped balance the jingle. Sandwiched between two recordings of the jingle was a non-musical section based on this script:

*Place: Make-believe store

Andy: Taste our terrific drink. It even has an original name, Cherry Bomb.
Bill: Very nice color.
Andy: Taste it, will you?
Bill: Sure (slurp). This is great.
Andy: And remember, Cherry Bomb takes all your thirst away with a burst.

Members of the Newspaper Group barely altered their original plans; production kept them sufficiently busy. Trimming their self-cut sheets to fit the duplicating machine, checking to see that pages came out properly, and redoing their masters when necessary all proved time-consuming. In one instance, a controversy developed over using different paper. It would make a difference in duplication, the group agreed, if the two types of paper were truly different. The children put one hundred sheets of each type on a balance scale, found a large difference in weight, and thus decided to stick with the paper they had been using. (See Figure C1-5 for a copy of their front page.)

The How/When/Where Group and the Pricing Group sorted out their details; they would charge ten cents for a four-ounce drink served in a five-ounce paper cup, yielding a three-cent profit per cup. With their work completed, these groups merged to form the Mixing Group, responsible for most aspects of manufacturing the drink. One member suggested they use a pitcher, but the group decided to first find out how many drinks would be needed.

When told that the school had 263 students, the children assumed that each student would buy a drink, and therefore they would need to prepare 132 recipes (one recipe makes eight ounces or two servings). "Use the wastebasket," one child facetiously suggested. The group, thinking this idea might have merit, ran a test mixing session using water, a wastebasket, a plastic liner, and a yardstick mixer. Not satisfied with the results, the children later decided to use several smaller containers for mixing and coffee urns for dispensing. To gain experience in mixing large batches and to refresh the memories of their taste buds, the group members prepared for a class tasting session. They first

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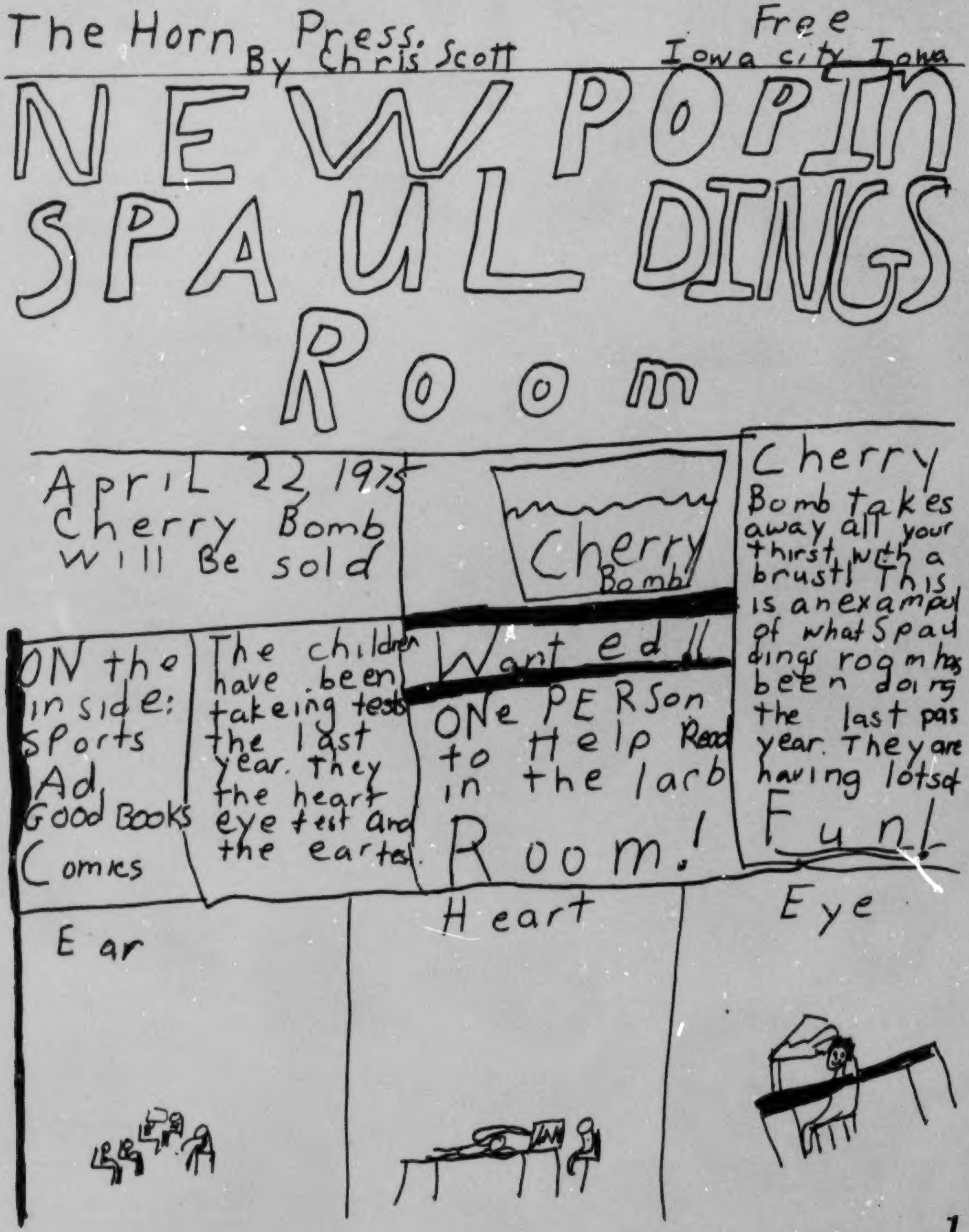
*Spelling and punctuation corrected from original.--ED.

Figure C1-5



The Horn Press.
By Chris Scott

Free
Iowa city Iowa

NEW POP IN SPAULDINGS Room

April 22, 1975
Cherry Bomb will Be sold

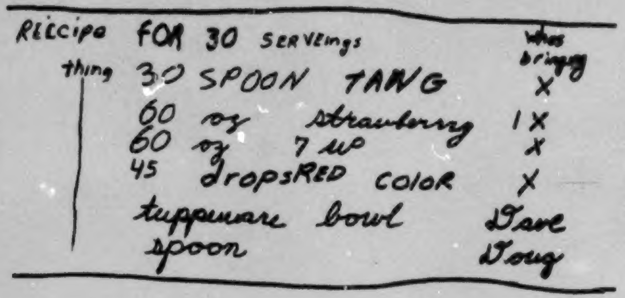
Cherry Bomb

Cherry Bomb takes away all your thirst with a brust! This is an exampal of what Spaul dings room has been doing the last pas year. They are having lots of Fun!

Wanted!!
ONE PERSon to Help Read in the larb Room!

ON the inside:
Sports
Ad
Good Books
Comics

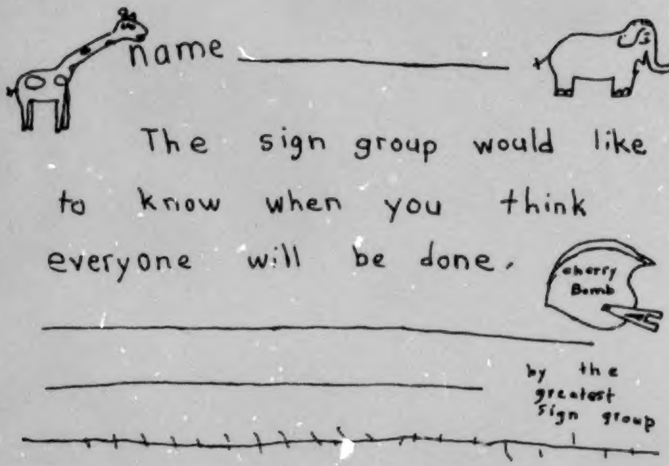
The children have been takeing tests the last year. They the heart eye test and the ear test.



Reccipe FOR 30 SERVEings

thing	whos bringing
30 SPOON TANG	X
60 oz strawberry	1 X
60 oz 7 up	X
45 dropsRED COLOR	X
tuppeware bowl	Dave
spoon	Doug

Figure C1-6



name ______

The sign group would like to know when you think everyone will be done.

______

______

by the greatest sign group

cherry Bomb

Figure C1-7

made a list of needed items (See Figure C1-6),* and then, with no difficulty, manufactured thirty servings. The class reaffirmed that Cherry Bomb was indeed "a really good drink."

Before ordering ingredients for the school batch, the Mixing Group realized that the previous estimate of how many drinks they would sell was not based on sufficient information. The task of surveying the school to gather marketing data fell to the Sign Group. Members of the Sign Group prepared and dittoed survey forms, took the survey, tabulated the results, and concluded that we could sell 194 drinks. The class decided we should mix enough drink for 200 servings and then calculated that we needed: (1) 400 ounces of 7-Up and strawberry pop, (2) 300 teaspoonfuls of Tang, and (3) one small jar of red food coloring.

Surveying seemed to become the Sign Group's specialty. The children had completed their signs except for blank spaces designated for the yet undecided date of sale. To help choose the date, the group surveyed all other groups to see when they planned to finish (see Figure C1-7). Based on this poll, the class aimed for the week of April 24 but later changed the selling date to April 22, the date on which another class planned to hold a bake sale. (My class thought that concurrent selling would be mutually beneficial.) Once the selling date was chosen, the group members completed their signs.

Other groups also completed their ads, and as the big sale loomed only a week away, the class settled down to the two remaining preparatory tasks: organizing our advertising campaign and deciding who should do what at the sale. After a long discussion, the class mapped out the following advertising strategy:

1. Sandwich signs--display at noon for the five days beginning April 16, and display once in each homeroom (for those children that go home for lunch).
2. Video and radio ads--show each, once per homeroom.
3. Newspaper--distribute to all students.

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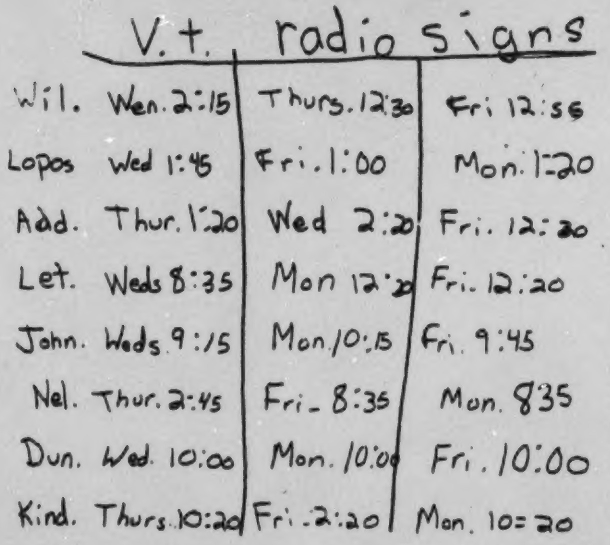
*If the class were following their basic recipe, they should have listed 45 (tea) spoons of Tang, rather than 30 spoons. This may be due either to error or to a decision by the class to reduce the amount of Tang per serving from 3 tsps. to 2 tsps.--ED.



	V.t.	radio	signs
Wil.	Wen. 2:15	Thurs. 12:30	Fri 12:55
Lopos	Wed 1:45	Fri. 1:00	Mon. 1:20
Add.	Thur. 1:20	Wed 2:20	Fri. 12:20
Let.	Weds 8:35	Mon 12:20	Fri. 12:20
John.	Weds 9:15	Mon. 10:15	Fri. 9:45
Nel.	Thur. 2:45	Fri. 8:35	Mon. 8:35
Dun.	Wed. 10:00	Mon. 10:00	Fri. 10:00
Kind.	Thurs. 10:20	Fri. 2:20	Mon. 10:20

Figure C1-8

Two volunteers got in touch with each teacher to set up convenient times for our ads and drew up the schedule shown in Figure C1-8.

To prepare for the sale, we reviewed our needs and made decisions about who would--

1. bring more containers
2. arrange for the tables we needed
3. sell the drinks
4. mix the batch
5. pour the drinks
6. purchase the ingredients

We selected four mixing groups (two people per container) to prepare the drink in the small kitchen adjoining the gym. Through the connecting window, we would dispense the drinks. We scheduled the mixing to take place during the children's music period on the day of the sale. (I spoke with the music teacher and exchanged periods for that day.)

Three o'clock, April 22 arrived. The onslaught of students armed with cash left no doubt about the success of the children's advertising campaign. Our class sold 215 drinks, and the supply ran out before the demand. One customer bought four cups! (One teacher was pleasantly surprised by the taste; earlier in the year she had participated in a survey of one of our less tasty soft drinks.) As further evidence of success, several students and teachers asked me for the recipe. I decided to check first with the class.

"No!"

"Never!"

"It's ours!"

"What if we want to sell it again?"

Such were the initial reactions to the recipe request. Later the children realized they would be in different classes next year, and so they decided to give out the recipe during the last week of school.

"We made lots of mistakes," said one child in our final review of the unit. Some children pointed out that they learned to cooperate, to be patient, to discuss rather than argue, to operate media equipment, and to do comparative shopping. Others noted that they learned math (counting, measuring, pricing, adding, subtracting, dividing, multiplying), reading, spelling, and art. Two others mentioned learning about laws and the importance of recording information. And one child added, "We learned how to think."

2. LOG ON ADVERTISING

by Diane Sammet*
Monte Vista School, Grade 4
Monterey, California
(September 1973-June 1974)

ABSTRACT

After finding ways to promote the books they had read, the children in this fourth-grade class formed an advertising agency that conducted campaigns during the entire school year. During the first few months the students concentrated mainly on poster advertisements, but later they became involved in different aspects of advertising, such as presenting a skit, writing and distributing a booklet, and using eye-catching devices. The class evaluated their first seventeen campaigns by interviewing the people who had requested them and found that 75% of these campaigns had been successful. To encourage students to use the school library more often, the agency sponsored a school-wide poster contest, planned P.A. announcements, and designed ad mobiles for each class. In order to decide where to hang the winning posters, the agency surveyed traffic flow in the school to find the best (most heavily traveled) location for the posters. When little interest was shown in the poster contest, the agency wrote and tape-recorded a lively skit that was played over the P.A. system. The agency's last campaign was to advertise the school carnival by making posters for every room in the school. Because the class was given only two days to complete them, they formed assembly lines and mass-produced the posters.

I first brought up the subject of advertising to my students during one of our reading periods. My fourth graders frequently spent these sessions trying to interest their classmates in books they had read; I suggested that we consider the different ways in which commercial TV advertisers attempt to promote their products. The class listed the following methods of promotion:

1. Comparisons are made with similar products.
2. Opinions are expressed either by individuals or in surveys.
3. Free samples are offered.

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*Edited by USMES staff

4. Evidence is displayed to prove merit.
5. Display of product is made interesting by using eye-catching posters and music.

On the following day we talked briefly about slogans used in TV commercials and their effectiveness. The class then worked on a slogan/product matching game that I had devised. When everyone was finished, we tallied the results and found the mode, median, and average number of correct pairings. The students enjoyed this game and expressed interest in making up their own slogan game in the future.

At the next USMES session, I suggested that we consider forms of advertising that, unlike TV ads, appealed only to the eye. One boy mentioned that magazine ads were made to catch the eye; another child added that attractive ads could usually be found on bulletin boards, in buses, and in the flyers that are placed on windshields. (We'd recently distributed notices from the PTA by placing them on windshields.) I suggested that those who were interested might see whether they could find ads that had "eye appeal." I suggested that we talk about them in class and try to decide what characteristics made them attractive.

Almost everyone brought in ads the next day. Each child showed his ads to the class and pointed out eye-catching characteristics. We recorded the attractive qualities of each ad and then grouped the ads under the following categories:

1. double message
2. interesting faces
3. pretty girls
4. animals
5. babies, young children
6. mouth-watering pictures of food/drink
7. simplicity
8. clear information given
9. humorous
10. interesting design
11. artistic
12. good color (all ads had this)

The class secretary made headings for each category; we then placed each ad in a pile under the heading that best described it. Two girls became fascinated with this procedure and asked if they could design a display board of ads that exemplified each category.* Two boys pointed out that we had too many ads for one display board; they offered to compile the leftover ads in a scrapbook. I thought both proposals were wonderful and accepted them heartily!

The next day was "Ad Day" for reading. One boy showed us a shoebox diorama of the story *A Ghost Named Fred*. He used some of the techniques we had attributed to TV advertisements. Another student did the same; she made a lovely relief map of the Land of Narnia "to improve the display of her product" with an "interesting" and "attractive" design. To demonstrate some of the good characteristics about her book, she also described two of C.S. Lewis' chronicles.

The bulletin board of advertisements was completed. The two girls selected two ads illustrating each category. Under the title of the display--"What Makes a Visual Ad Catch Your 👁 ?"--they placed each category title and the two examples. They included an additional statement that applied to all of the ads: All-Good Color.

One of the students drew my attention to the fact that no one in the class had mentioned ads which had no color but were, nevertheless, effective and attractive, e.g., newspaper ads. To bring this to the attention of the rest of the class, I made up a bonus credit project for reading that included several options related to reading or creating newspaper ads. Many of the students worked on the project.

Three students compiled the scrapbook. They separated the ads into categories and then glued them onto large pieces of heavy paper. If there was disagreement about how to classify a particular ad, they conferred with other members of the class.

The preceding activities had stimulated an attitude of interest and curiosity in advertising among the class. I thought that the time was right to introduce them to the challenge of finding the best way to advertise a product or a service. In the next session, we considered what products and services Monte Vista offered and how we might help the school to promote its activities and concerns. The class suggested dozens of things that could be advertised, including the following:

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*The children might collect data from each student indicating which of the ads on the bulletin board he/she liked the best. To find out the most important characteristics to include when making an effective ad, the students could rate the class's top choices according to their strengths in the twelve categories listed on the previous page.--ED.

1. the hot lunch program
2. the spring carnival
3. Thanksgiving and Christmas programs
4. PTA meetings
5. the weekly Student Council ice cream sale
6. antilitter campaigns
7. the art and book fairs
8. getting people to use the library
9. school contests
10. annual school talent show

Someone proposed that our class become an agency which was responsible for school functions and activities. This idea was applauded by the rest of the class. They immediately began searching for a name for the new business. From the six names nominated, "Madison Avenue West" was chosen "to distinguish it from those agencies in the east." We then elected three officers for the agency.

The class decided that their first project should be a promotional campaign to advertise their new company. We first talked about various ways we might interest others in the school in our services and decided that a flyer should be distributed. Four people gathered to prepare a first draft. After consulting our display board of ads for ideas on how to make the flyer eye-catching, a preliminary version was drawn up, and the group questioned their classmates for their opinions on which features they liked best. A mimeograph stencil was then prepared.

When designing the flyer, the children interwove several of the characteristics we had previously detected in appealing ads:

- The small bug in the corner of the ad filled the "animal" category.

- The information depicted was carefully spaced and complete, covering the "clear information" category.

- The ideas of "color" and "simplicity" were combined by crayoning a little on each flyer after the printing was done.

- One of the slogans was also "simple" and original.

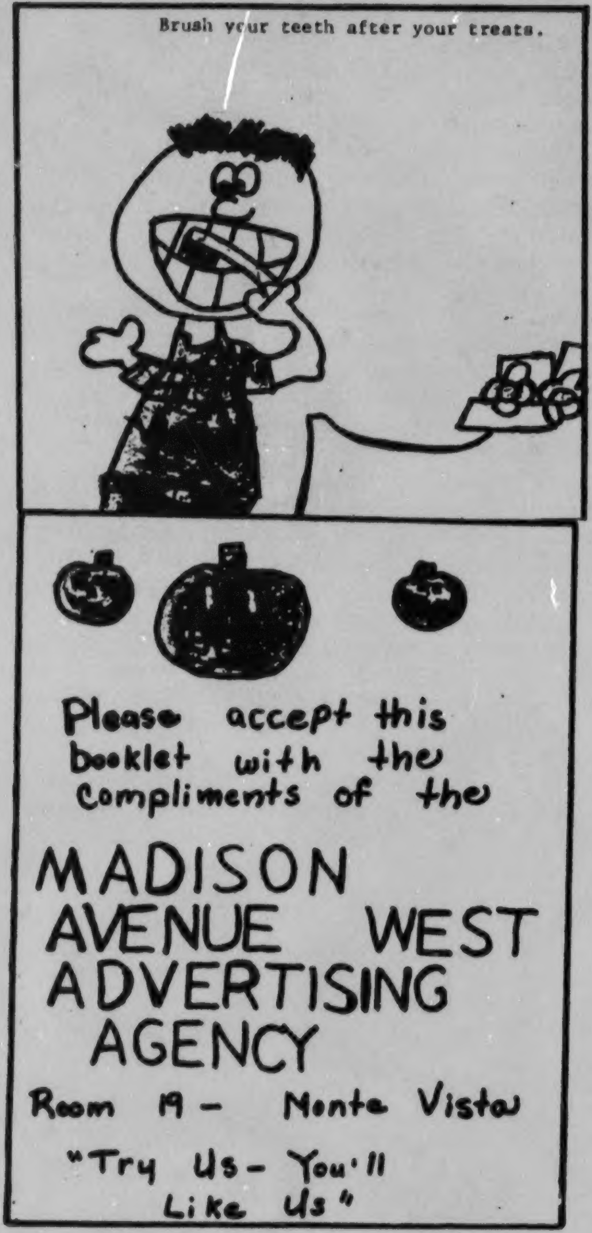
Brush your teeth after your treats.
Please accept this booklet with the compliments of the
MADISON AVENUE WEST ADVERTISING AGENCY
Room 19 - Monte Vista
"Try Us - You'll Like Us"

Figure C2-1

Having obtained a list of school personnel and faculty, the students carefully estimated the number of flyers that they wanted to have printed.

One of the boys suggested that our potential customers also be given samples of our work as evidence of our skill and merit. We considered many ways to do this. Finally we settled upon preparing a Halloween Safety Booklet. We had been talking about safety in general that morning because of an accident on the playground. The students listed nine rules for safety when trick-or-treating and four children gathered to plan the booklet format and production. The group elected to make the booklet out of green and yellow paper and to put each rule and an accompanying illustration on a separate page. This, they decided, would be an eye-catching and effective format. Some sample pages from the booklet are shown in Figure C2-1.

Our flyers and Halloween Safety Booklets apparently stirred up interest in our services. We were immediately offered several opportunities to flex our promotional muscles; the requests and our subsequent advertising campaigns are described below.

- One girl who had four kittens for sale asked our class to help her find homes for them. Several children encouraged her to take the kittens around to some of the classrooms. They felt that the kittens would sell themselves! Four posters were also made to advertise the sale of the kittens. We were all very pleased when two of them were sold the next day! (A copy of one of the posters is shown in Figure C2-2. The original poster was on yellow construction paper and the kitten was colored in.)

- A campaign was launched to publicize an ad contest sponsored by a local bank. Room 11 at Monte Vista had submitted an entry. The posters urged children to tell their parents to visit the bank and vote for that entry.

- We made campaign posters for three children in our class who were running for Student Council positions. Each candidate thought up different ways to appeal to the voters, drawing on his or her knowledge of effective advertising. Catchy slogans, colorful pictures and interesting designs were used. (See Figure C2-3.)

- The Student Council asked us to make up signs to remind students about our voter registration. Large posters were neatly lettered; contact paper flowers were used to decorate them. I noticed that the students were learning about the importance of preliminary planning for their ads: the Student Council advisor returned the first version of our posters because details about the day and location of the registration had been omitted.
- The school secretary notified our class that her stapler had disappeared. One of the students devised a notice and distributed it to all faculty members informing them of the loss.
- To promote UNICEF collections and donations, two girls suggested that we make posters. The class responded enthusiastically to their idea; many innovative and attractive designs were drawn up.

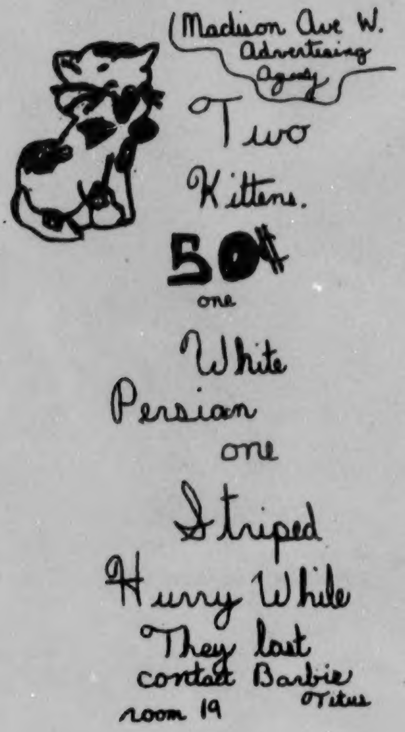

Figure C2-2

I might mention here that the Advertising Unit had already noticeably affected the students' written work. Fourth graders are generally careless about their lettering. Through the unit, however, they seemed to be learning the significance of clear, concise communication. They began to make their poster lettering with rulers and lettering guides; words were carefully located on a piece of paper after many measurements had been taken.*

The children did tire of repeatedly having to sketch the Madison Avenue West signature on each of their creations. They decided to order a rubber stamp that carried the needed details. The Student Council was persuaded to pay for the stamp in exchange for our services rendered during election time and in the future. This is what the official seal of Madison Avenue West looked like:

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*The children might conduct experiments to determine the best size and type of lettering to use.--ED.

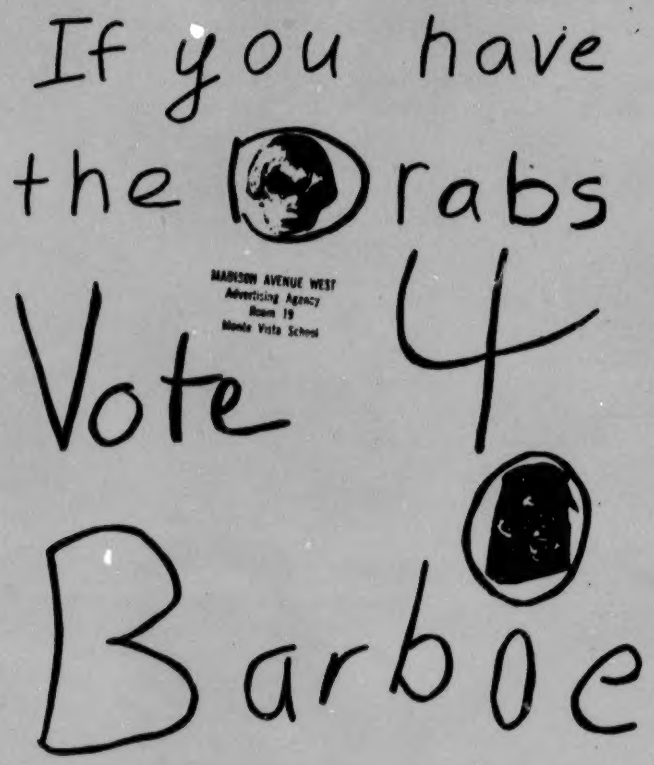

Figure C2-3

MADISON AVENUE WEST
Advertising Agency
Room 19
Monte Vista School

During these two months of activities, it occurred to me that many other approaches could have been devised to promote important events and causes. The class had become so involved in managing the campaigns that we had had little time to delve into the philosophy and phychology of advertising or an analysis and evaluation of our campaign strategies. We seemed to be digging ourselves deeper into the poster rut with each new campaign. I hoped to find ways to encourage the class to explore a variety of advertising methods and to investigate the effectiveness of each method.*

One campaign showed me that our capabilities did extend beyond a certain prowess with posters. The principal asked our class to send two representatives from Madison Avenue West to talk with her about how they might promote respect for the authority of our school's safety patrol officers. Two students held a series of meetings with her to talk about how to conduct the drive. Some of their ideas were very creative and distinct from our poster preoccupation. They considered making up an oral presentation about obeying the safety patrol to give to the kindergartners and first graders since they might be unable to read a safety rules booklet or poster. One student also suggested making a series of announcements in the lunchrooms, conducting a safety assembly, and publishing rule booklets.

The children seemed most gratified that the principal had requested their help. Patronage by outsiders seemed a most important indication of success to them. One of the students commented, "Our flyers must be good if the principal wants us to do a job!"

The safety campaign became our most extensive publicity project to date. About eight weeks were spent on devising our promotional materials:

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*Students might suggest other methods of advertising when the class discussed the effectiveness of their current campaigns.—ED.

- One girl wrote a five-part skit for the younger children at our school. It illustrated the importance of obeying the safety rules. The five actors practiced it several times and then set a presentation date with the two kindergarten and three first-grade classes for after Christmas. After the performance, we were told that the children enjoyed it a great deal and followed it with a talk about safety.

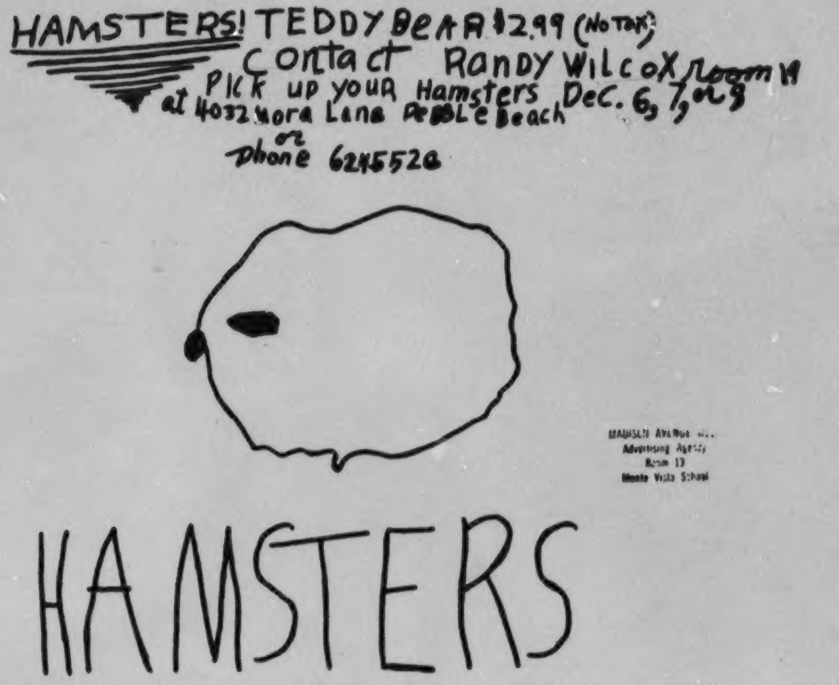
- Two girls put together a small booklet on obeying the safety patrol. This was mimeographed so that each class could have a copy. Safety rules from this booklet were read at the end of the skit for the younger children.

- "Obey Your Safety Patrol" signs were cut out of large white poster paper. They were made the same size and shape as the signs the safety patrol students carried. The lettering was painted in luminous, eye-snagging colors.

Concurrent with our work on the safety campaign, we received numerous other requests for promotional advertising. These included advertising the sale of various items such as hamsters, doll clothes, Christmas crafts, and a ten-speed bike and promoting a garage sale and physical fitness tests. By the time Christmas vacation arrived, we were very ready for it; we had conducted seventeen campaigns in our brief lifetime!

The campaigns we organized during November and December did have some novel facets to them. The hamsters were promoted on posters that displayed a mock hamster made out of fuzzy material. (See Figure C2-4.)

Attention and support were given to physical fitness by the life-size posters we constructed in the shape of a child's figure. The body, arms, and legs contained information about the test dates and the location. The class had a lot of fun with this venture--their poses became more elaborate as they became braver; the last figures cut out were doing headstands and somersaults, as compared to early ones that had been just standing poses. Interesting faces were drawn with felt pens on the cavorting figures, too. (See Figure C2-5.)



HAMSTERS! TEDDY BeAR $2.99 (NO TAX)
Contact Randy Wilcox Room 19
Pick up your Hamsters Dec. 6, 7, or 8
at 4032 Nora Lane Pebble Beach
or
Phone 6245520

[illegible] Avenue ...
Advertising Agency
Room 13
Monte Vista School

HAMSTERS

Figure C2-4

To initiate exploration of the characteristics and effects of various kinds of advertising, I began our first language arts class after vacation by suggesting that the children take their spelling lists and try to combine the words to make slogans that they might find on billboards. This proposal evoked a short discussion about billboards. One of the children noted that there weren't any in Monterey; another recalled that large signs did border the routes leading into and out of town. We agreed that they were not missed here in town because they would destroy its beauty. Since billboard slogans, when visible, were easily recalled, the children decided that they were a very effective means of advertising, aesthetics aside. I wanted to pursue this point, so I asked them how they would rule if they were able to legislate the laws for billboard usage. One girl said, "I would ban all except the ones that tell you where hotels and restaurants are. Our family travels a lot, and we always look for these when in a strange town." The class and

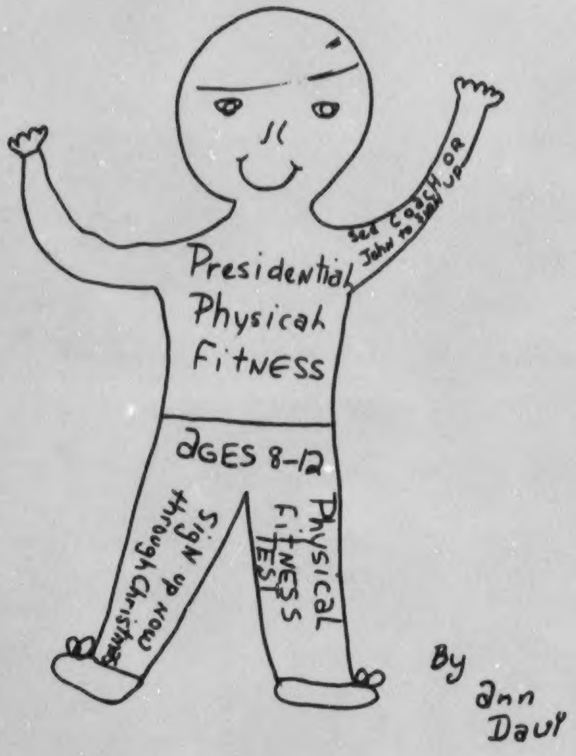

See Coach OR John to sign up
Presidential Physical Fitness
ages 8-12
Sign up Now through Christmas
Physical Fitness Test
By ann Davy

Figure C2-5

I agreed.*

In the next session discussion turned to the subject of television commercials again. Though we had been working with magazine and newspaper-type ads in the past few months, the children felt that most of their ideas for good ads came from watching TV. We fell into a lengthy debate over which TV programs were watched the most. I brought out a TV trivia quiz that I found in the back of a book on television communication, and we tried to answer questions about the most popular shows on TV, e.g., "What doctor assists Marcus Welby and who plays him?" We thought that this quiz might indicate how much we all knew about TV and how much of an impact it made on us. As the tally below indicates, we found that there was quite a span of TV knowledge.**

	Number of Correct Answers	Number of Children
	0	1
	4	1
	8	2
	9	1
	10	1
	11	1
36 Possible Correct	13	1
	14	1
	15	1
	16	1
	17	1
	18	2
	19	1
	20	2
	21	2
	23	2
	30	1

---

*The class might investigate whether other adults and children shared the same conclusions about billboards, i.e., that they are actually remembered or that hotel signs are needed and useful.--ED.

**The children might construct a histogram of this data. The number of correct answers could be represented in ranges of 5 (0-5, 6-10, 11-15, etc.).--ED.

Some children said that they would rather read or play than watch TV. Some simply said that they watched TV only "when they were young." It was hard to tell why the range of answers was so great; we did conclude that ad agencies would have to appeal to some children through other means, such as the backs of cereal boxes.

In our first USMES session of the new year the officers of Madison Avenue West suggested that the class evaluate the effects of our seventeen campaigns to date. Several children decided to interview each of the people who had sought our services; each one was asked whether our efforts to promote their product or service had succeeded or failed. Others checked on the results of the campaigns.

After we looked at the facts collected, we decided that four of the campaigns were failures. Our conclusions were based on the following information:

1. The campaign to stimulate interest and voting in the bank ad contest apparently flopped. Our evaluators could find no evidence that any of our parents had visited the bank, much less voted for Monte Vista's entry.

2. The campaigns conducted for the three children running for Student Council positions were deemed failures since none of the three won.

3. The 10-speed bike was not sold, so we were unsuccessful here, too.

4. Because only a few items were sold at the garage sale, the evaluators thought that we had failed here, too.

Our UNICEF campaign could not be clearly assessed. Less money had been collected this year than had been last year, according to the person in charge of the drive. However, the children noted that the police department had been advocating that trick-or-treaters should return home by dark; the children felt that this policy probably affected the size of the collection made. They concluded that they could not accurately determine the effect of their posters when there were also other variables affecting the drive. The remaining twelve promotional endeavors were judged to be successful by those who had requested them.

We talked about how we might measure and describe our success. I suggested that they "fool around" with the numbers of successes and failures to see whether they could find a simple estimate of our merit. My class hadn't studied percentages, but they seemed able to reason things out quite well. In addition, they had done some work with fractions. One boy put 4/16 on the board and stated, "This is the fraction showing our unsuccessful ones." (We decided not to count the UNICEF drive in our calculations.) Another student quickly saw that 4/16 was equivalent to 1/4. The conclusion easily followed that 3/4 of our campaigns could be called successful.

At this point the class became a little bogged down. I decided to pursue the calculation a bit further, so I drew a circle on the board and divided it into four parts. I asked if anyone knew what percent the whole circle represented. "100%" came right away. From there, the "75% success rate" was easily found.

One student commented, "Well, at least it's more than half. If it was less we should just give up." His classmates agreed that the results were pretty good for the first try at advertising. They were, however, determined to boost that rate during the second half of the year.*

After a month of evaluation, the children were ready to begin promotional work again. They remembered that one of the possible projects for Madison Avenue West was to encourage students to use our school library more. Most of the students used the town library a great deal to the neglect of Monte Vista's! One boy called a planning meeting in which the members decided to initiate an elaborate campaign using a number of promotional strategies: designing advertising mobiles for each classroom, making public address announcements, and conducting a school-wide poster contest, with reading and the use of the school library to be the themes of the posters.

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*As they make plans to improve their strategy, the students might discuss which of their campaigns were most effective and why, which types of advertising worked best (e.g., posters, skits), and which of their campaigns might have been more effective if another type of advertising had been used. They could discuss how they might collect better data on the effectiveness of their campaigns and consider the possibility of using two different types of advertising for the same product and comparing the results.--ED.

In their second meeting, the group noticed that April 2 was International Book Day, and so they decided to capitalize on this in their campaign. For several weeks their attention was centered on designing a display case to advertise the poster contest they were holding. They also made up the contest rules and set the time, date, and location of the contest. When the winning library posters were chosen, the group planned to hang them in various locations around the school. I asked the planners how they would know where the best places to hang the posters would be. At first they just guessed at good places as, "Well, we know lots of people go by the office; so that might be a good place."

I pressed them to tell me how they knew that would be the best place:

TEACHER: How can you find out where the best place is to put a poster?

STUDENT: The door of the library.

STUDENT: The office.

STUDENT: Get two to five people from each class and ask them where the best places are.

TEACHER: Good! That would be an oral survey. Is there any other way?

STUDENT: Pass out notes asking people.

TEACHER: How does a city council decide what intersections need traffic lights?

STUDENT: Where the streets are used a lot and there's lots of traffic.

TEACHER: Is there a scientific way of determining this so they could prove to the taxpayers that a light is needed?

STUDENT: They could count the cars going by.

TEACHER: Okay. Using that idea, how can we count students to find out where most of them go?

STUDENT: We could station people at certain places to count students going by.

TEACHER: When would be a good time?

STUDENT: In the afternoon when they're moving around more.

TEACHER: How would you count them...using your fingers?

STUDENT: Use tally marks. (She demonstrates on the board.)

One student took the initiative to draw a map of the school on graph paper including the names or initials of talliers at the locations where they would be stationed. (See Figure C2-6 on following page.) Once the traffic had been tallied at the various locations, all the data was

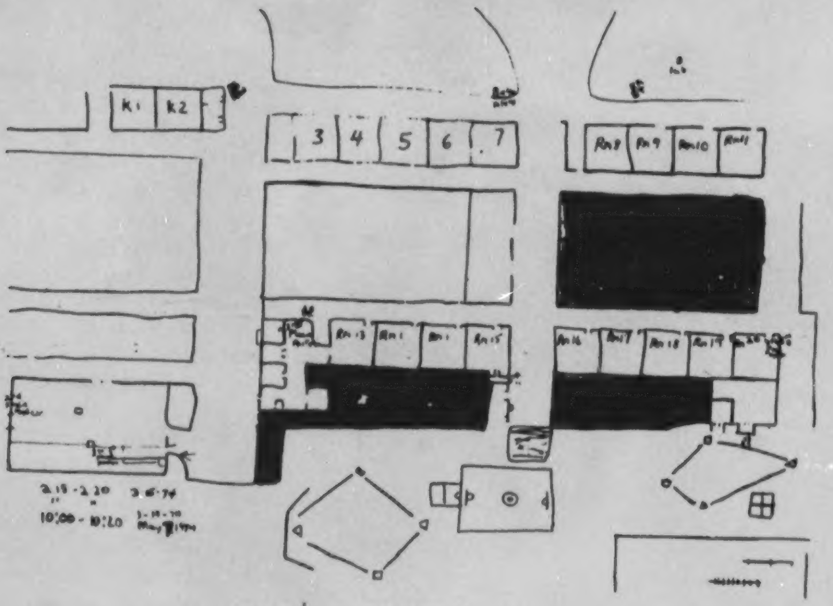


Figure C2-6

was transferred to a master chart pictured in Figure C2-7. The class analyzed the data and decided to place two of the winning posters in the cafeteria which "we pretty much knew was the best place to put posters because everyone goes in there for lunch." The other two posters would go in the central office and outside Room 20 since "lots of kids walk by there on their way to the playground or home."

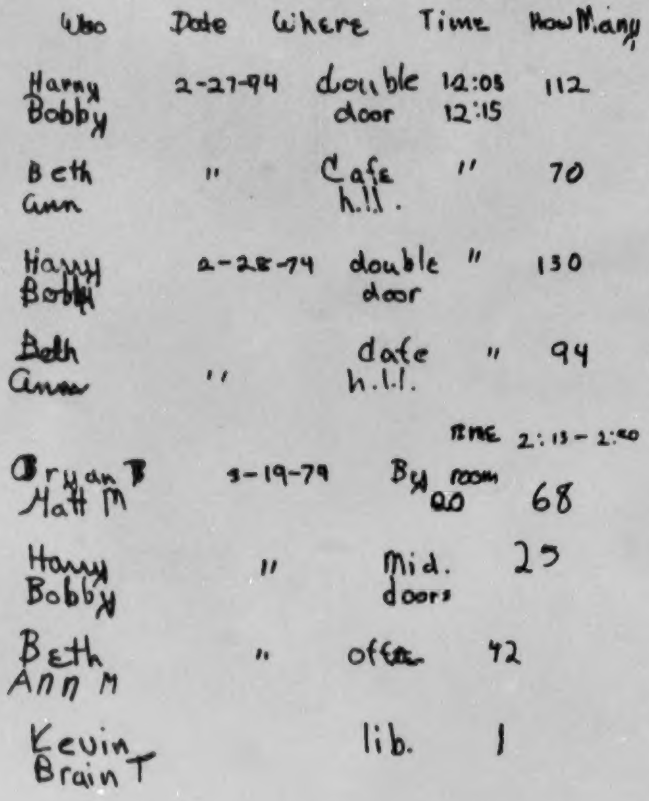
Three weeks after the showcase display had been set up to advertise the poster contest, the class became worried because no one had entered their contest. To get to the root of the problem, they decided to question the fifth and sixth graders during their physical education classes. To their disappointment, the majority of the students questioned hadn't even noticed the hall display while others said they had been too busy to enter the contest.

My class jumped to the challenge. Everyone agreed with one girl who said, "If students don't pay attention to the showcase display, then we'll have to use another method of advertising." The most popular suggestion was to record a skit on audiotape and play it to all the fifth- and sixth-grade classes. (The contest was limited to the upper grades because we felt that we would be partial to other fourth graders and that primary children couldn't compete with intermediate children.) In order to capture the attention of the listeners, the class spiced up the recording with background music from the movie, "The Sting."

In response to this new form of advertising, twelve students entered our contest, and their entries were judged according to a strict set of standards. Professional posters were given as prizes to those who submitted the best four entries, and bubble gum was awarded to all other contestants. The winning posters were then hung in the four most heavily traveled locations in the school.

For the agency's last campaign the class really used the knowledge they had acquired about advertising. On two days notice the School Carnival Committee asked us to make posters for every room in the school. Because of the time limitation we realized that the only way to meet the deadline was by mass production. We decided to have an elephant holding a balloon with all the necessary information about the carnival written on it. (See Figure C2-8.) When the design of the elephant was complete, we were ready to work on an assembly line--cutting out elephants and balloons, taping yarn, and lettering the balloons. Everyone worked very hard, and we managed to finish all of the posters in one day with one poster left to hang in the local supermarket.

At the end of the year we were able to test our advertising skills outside of the school. To our delight, the *Monterey Peninsula Herald* held a Design an Ad Contest for ten year olds and up. The eight students in the class who met the age requirement eagerly received instructions about the size of the ad and what company to promote. When the ads were judged, one of the girls from our class came in first in her age group and won $50.00! After this success, we felt that we had really proved our advertising expertise inside and outside of school.



Who	Date	Where	Time	How Many
Harry Bobby	2-27-74	double door	12:05 12:15	112
Beth Ann	"	Cafe h.ll.	"	70
Harry Bobby	2-28-74	double door	"	130
Beth Ann	"	cafe h.l.l.	"	94
Bryan B Matt M	3-19-74	By room 20	TIME 2:13 - 2:20	68
Harry Bobby	"	mid. doors		25
Beth Ann M	"	office		42
Kevin Brain T		lib.		1

Figure C2-7

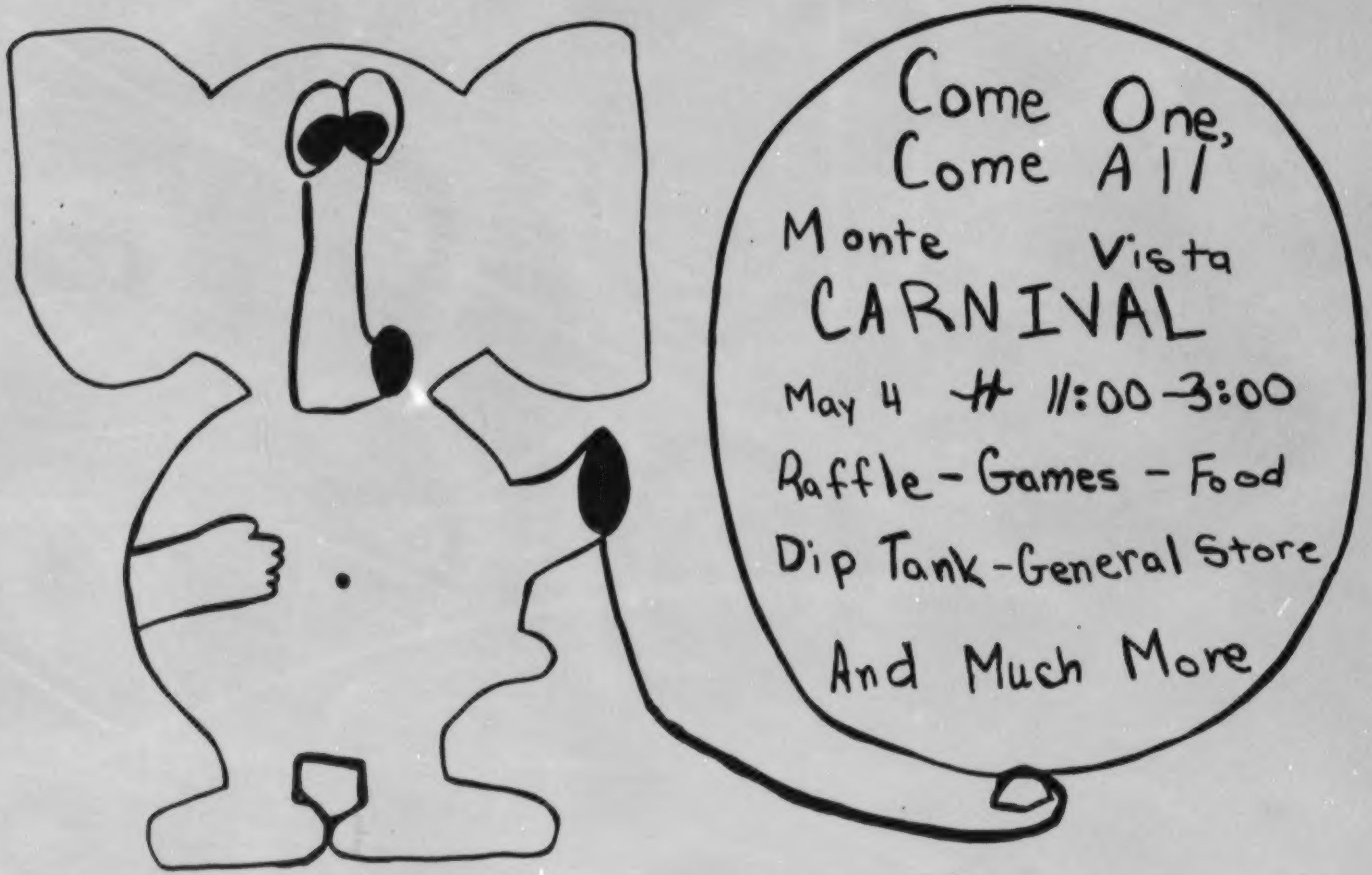

Come One,
Come All
Monte Vista
CARNIVAL
May 4 # 11:00-3:00
Raffle - Games - Food
Dip Tank - General Store
And Much More

Figure C2-8

3. LOG ON ADVERTISING

by Janice Hable*
Michigan Avenue Middle School,
Grade 5
Howell, Michigan
(September 1975-December 1975)

ABSTRACT

When this fifth-grade class decided to raise money for a camping trip by having a series of weekly bake sales, they saw a need to advertise their sales. After their first sale showed a very small profit because of insufficient advertising, the class was further inspired to advertise their sales effectively. They decided to use different advertising techniques for each sale, choosing posters as the means of advertising the second sale. When this proved successful, the class continued to try different ways to advertise for each sale. After using such methods as flyers, sandwich boards, tape recordings, public address announcements, the school bulletin, hand-carried signs, and posters, the class conducted a survey of six intermediate classes to determine which method was the most effective. At their last session, the class discussed the survey results (public address announcements and posters were the most popular methods) and made suggestions for improvements in their poster advertising.

Advertising arose quite naturally in my class when the students began to make plans for a series of bake sales and needed to advertise them. Because of some competition with other bake sales at school, the students were concerned with finding the most effective way of advertising their own bake sales. Initially, the class formed three groups; one of these groups, consisting of twelve students, was to work on advertising the bake sales. At their first meeting, the Advertising Group discussed possible ways of advertising the sales: public address system, flyers, posters, school bulletin. Then one student suggested that the group try to find out which way of advertising was the best. When I asked the group how they might do this, they suggested asking customers how they had found out about the bake sale.

When the group met again, they discussed several methods of advertising and considered the materials, time, and skills needed for each method. They then decided that posters would be the first method that they would try. One

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*Edited by USMES staff

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member of the group asked, "How could we make a poster that would really catch the kids' attention?" Everyone had ideas: use bright colors, make a simple and short ad, use a catchy rhyme, use humor, just tell the information, put something (like a cookie) that smells good on the poster. The group decided that each member would use one of these techniques when they made their poster. The posters would be placed in the other classrooms, and the group would compare the number of items bought by each class and then try to correlate this information with the different types of posters.

At the next session, each student in the Advertising Group began making a poster using the technique he or she had chosen. The group agreed that each poster should tell the date, time, and place of the sale and the items to be sold.

A few days later, the class held their first bake sale. Although the Advertising Group had worked very hard on their posters, most of the students were unable to complete them in time for the sale. The posters that had been finished were hung, and an announcement of the bake sale was made over the public address system.

However, the class was disappointed with the results of the sale, which netted them only about $18. I asked the class why the sale was not a success, and all agreed that more advertising was needed. They decided that everyone in the class should work on the advertising for the next bake sale. I asked the students for suggestions on making the next sale (scheduled for Friday) a greater success. As the class made suggestions, I listed them on the board:

Advertise in the school bulletin
Use sandwich boards
Put on a skit for each class
Put an ad on the radio
Make millions of posters
Make up a song

When I pointed out that the sale was on Friday and that we only had a limited amount of time to prepare for it, the class decided that posters would be the easiest and fastest way to advertise in the time we had left.

After some discussion of what makes a good poster, one student suggested that the class look at magazine ads to get some ideas. Fortunately there were magazines in the classroom; each student took several and proceeded to tear out the ads that he or she found really interesting. We discussed the reasons that they liked the ads they chose, and I listed them on the board:

humorous

colorful

simple

I then asked the class, "How should we make our posters?"

One boy suggested that each person in the class make a different poster. The class could then vote on the one that they liked best. After deciding that crayons and felt-tip markers would be used to make the posters, each student proceeded to make an original poster.

The next day, the class discussed how they would choose the best poster. The students agreed that the winning poster should be clear, easy to read, neat, and colorful. They then suggested a number of ways in which they could vote:

1. Place the posters on the floor and number them. Write the number of the poster you like best on a piece of paper.
2. Stand by the poster you like the best.
3. Put an X on the poster you like best.

After some discussion, the class chose the first way. Most of the students wanted to use the top three posters as models rather than just one, and they chose to do this. After one boy suggested that the posters be mass-produced, the class broke into three groups (Drawing, Coloring, Stenciling on Letters) to work on the posters.

The cupcake sale was a great success. The class made about $70. After the sale, we discussed why it was a better sale than the bake sale of the previous week. All felt that it was due to the advertising and that the class should continue to advertise their sales. One boy suggested that we try to find out the best places to put posters--i.e., where a lot of children congregate. It was decided that the class would count the number of people at different places in the school between classes on Wednesday (for about 3 minutes). Children were to be counted only if they were walking toward a wall that would be a good place for a poster.

At the next session the students talked about what they could do with the information they had collected. The following suggestions were made:

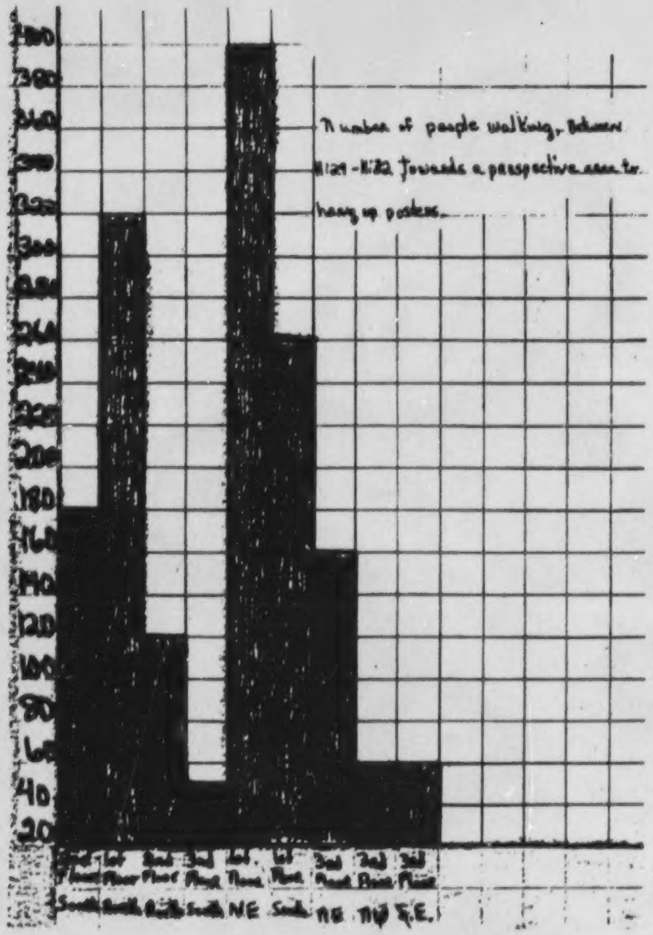


Figure C3-1

1. List information on blackboard.
2. Make a poster listing information.
3. Make a map of the school and list numbers of people by their respective locations.
4. Make a bar graph.

The class decided to record their information on bar graphs (see Figure C3-1). After I gave a short skill session on making a bar graph, the class discussed the numbering on the graph. The students first tried to count by fives, but all the information would not fit. After dividing different amounts into 300 (the largest number of children counted), they found that they had to count by twenties to fit the information on the graph paper. When the graphs were complete, the class used them to find good locations for hanging posters.

I then asked the class what other factors entered into whether people would look at one of our posters. The students listed these other factors:

1. clear enough to read the information
2. bright
3. large simple letters
4. more than one poster in the area

Because we were running out of time, I asked the class to think about how we could find out which of these factors determine whether people read the posters.

After a gap of several days, I brought up the advertising challenge again at our next session. Rather than consider other factors that might influence students to read the posters, the class decided to try a different type of advertising for our next sale. One student suggested having a gimmick. The following list of possible gimmicks was made on the board:

1. use a stamp
2. stickers
3. lottery tickets—the customer has a chance of winning a free cupcake
4. tokens--buy one cupcake, get one free would be written on a few of the tokens
5. number the cupcakes--people with winning numbers get a free cupcake

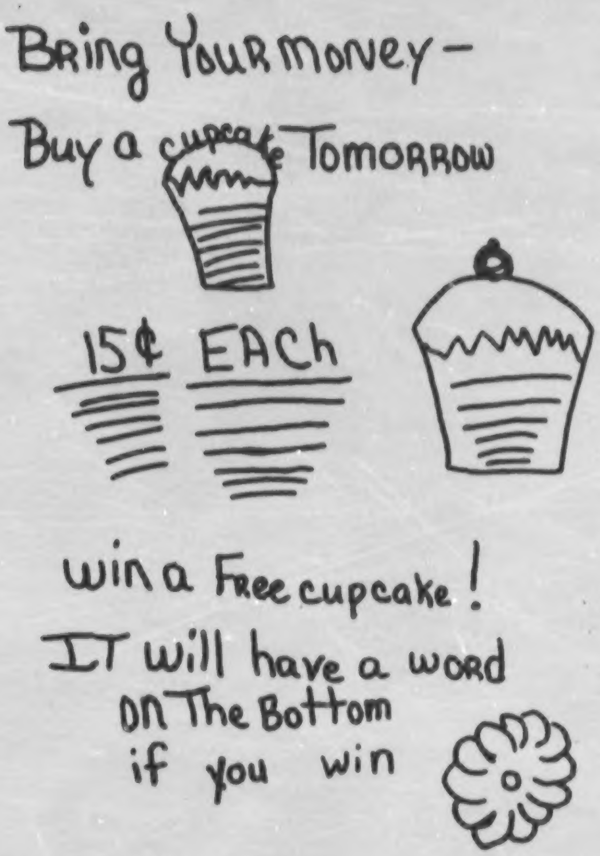


Figure C3-2

After much discussion of the pros and cons of each idea, the class decided to use a stamp on the cupcakes. Everyone then made suggestions for the printing on the cupcakes. Free, Winner, You Won!, Hi!, and a design were among the ideas brought forth. The class voted to stamp a design on the bottoms of the cupcakes. In order to let the school know about this, they decided to put a note in the school bulletin. After the bake sale, the class agreed that this method of advertising was quite successful, since the class again made close to $70 in sales.

At our next session, the class discussed how they could advertise for the next bake sale. They decided to incorporate the idea of winning a free cupcake into their advertising, but they wanted to use a different method of advertising to convey this information to the other students. Because the sale had already been announced over the public address system, the class felt that we should send something home with the students, such as a flyer.

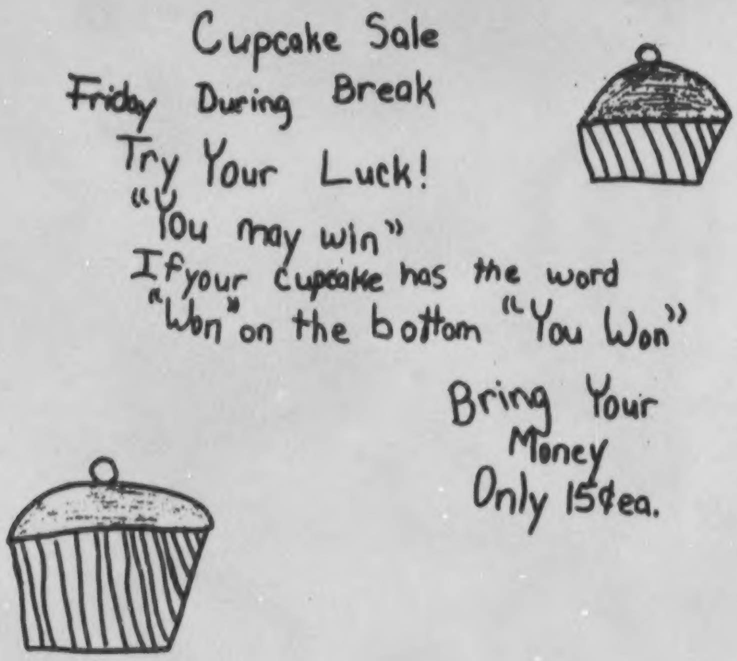
One student suggested that the class break into groups and that each person make up a sample flyer on scrap paper. Each group would vote to choose the best design. When I asked the class what criteria they would use to judge the flyers, they responded that the flyer must be simple and must have the necessary information on it (time and day of sale, price, chance to win free cupcake). The class then designed flyers and chose the five that they thought were the best. (Two of the flyers chosen are pictured in Figures C3-2 and C3-3.) Several children volunteered to pass out flyers at each doorway as the students left school.

The next day the cupcake sale was held. As we took in about $70, the sale was considered to be a success.

When we met again, the class wanted to try using some different advertising techniques for the next sale. They suggested the following:

1. slogan or limerick
2. skit
3. sandwich boards
4. another gimmick

We decided to work on all four ideas and the students broke into groups of their choice to work on them. Near the end of the session, we came back together to hear group reports. Each person in the Slogan Group thought up an idea; the group made up a poem that was a combination of all the ideas. They decided that they should make a tape recording of every-



Cupcake Sale
Friday During Break
Try Your Luck!
"You may win"
If your cupcake has the word
"Won" on the bottom "You Won"
Bring Your
Money
Only 15¢ ea.

Figure C3-3

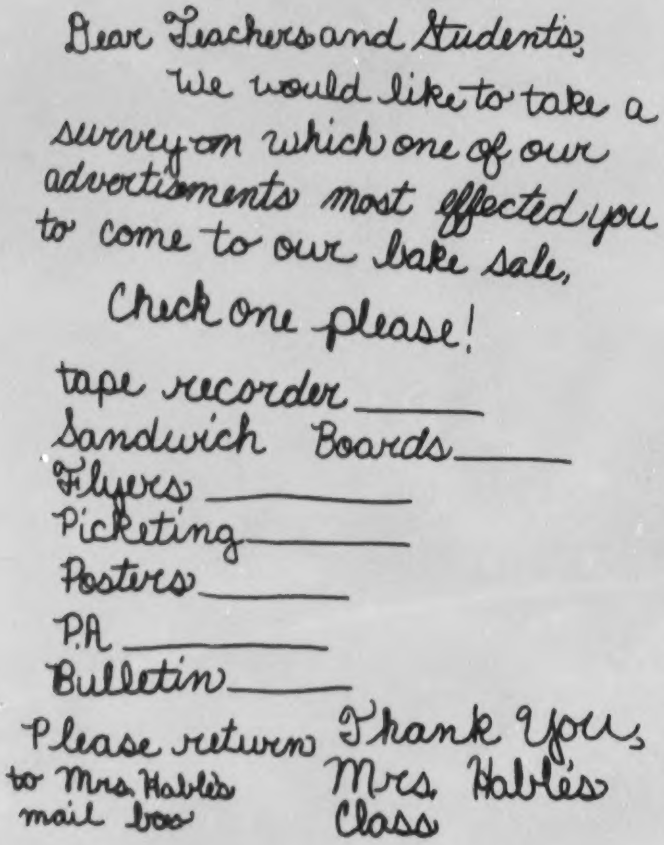
one in the group reciting the poem. However, this didn't work out very well because everyone read the poem at a different rate. The group then decided that only one person should recite, and after several volunteers read the poem, the best reader was chosen by a hand vote. They planned to play the tape in the halls between class periods.

The Skit Group made up a skit about cupcakes being sold that they planned to put on for other classes during homeroom period or at milk break.

The Sandwich Board Group first drew up different ideas for the sandwich boards. They showed their ideas to other members of the class and had each student check the idea he or she liked best. After determining the best design, they began work on a sandwich board.

The Gimmick Group first listed ideas that they might use:

1. Have a smell on the poster
2. Picket with signs advertising the cupcake sale
3. Tape signs on the backs of people without their knowing



Dear Teachers and Students,
We would like to take a survey on which one of our advertisments most effected you to come to our bake sale.
Check one please!
tape recorder ______
Sandwich Boards ______
Flyers ______
Picketing ______
Posters ______
P.A ______
Bulletin ______
Please return to Mrs. Hable's mail box
Thank You, Mrs. Hable's Class

Figure C3-4

4. Tell everyone on the bus about the cupcake sale
5. Have a lottery

After discussing each idea, the group voted to work on picketing and began making their signs.

At our next session we discussed the advertising techniques that the class had used to advertise the last cupcake sale. The students felt that the tape recording was ineffective since no one could hear or understand it in their rush to get on the buses. This led to a discussion of how we could find out whether or not our advertising was effective. The class suggested the following ways to find out:

1. Observe in the halls; stand next to the tape recorder and see if anyone really listens.

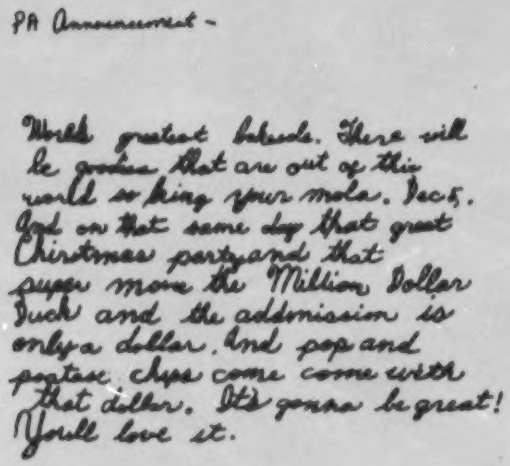
2. Use a different advertising technique each week and keep track of how many cupcakes are sold each week.

3. Make up a survey asking students which technique they felt was most effective. List all techniques used and have students check only one.

After considering each of these suggestions, they decided that the survey was best because it was simple, would give accurate information, and would not take too much time (as would using a different technique each week). The class then split into two groups--one group to make up a survey to be given later in the week, the other to work on advertising the bake sale planned for Friday. After making up the survey and dittoing it (see Figure C3-4), the Survey Group picked two teachers from each intermediate grade (grades five, six, and seven) and asked their permission to give the survey to their classes.

The other group worked on posters for Friday's bake sale to be placed in the halls. Several children wrote up an announcement for the public address system (see Figure C3-5). They also planned to put the announcement in the school bulletin.

Several days later, the Survey Group conducted their survey and tallied the results. They found that the public address system was the most popular and posters were the second. The group then listed the different methods in order of the most effective to least effective:


PA Announcement -

World greatest bakesale. There will be goodies that are out of this world so bring your mola. Dec 5. And on that same day that great Christmas party and that super movie the Million Dollar Duck and the addmission is only a dollar. And pop and potatoe chips come come with that dollar. It's gonna be great! You'll love it.

Figure C3-5

1. Public address system
2. Posters
3. Sandwich boards
4. Picketing
5. Flyers
6. Bulletin
7. Tape recorder

At our final session, I asked the students how we could use the information we had obtained from the survey. Because the class planned to do a lot of advertising for money-raising projects all year, they felt that the information was very useful. One student suggested making posters and signs that could be used many times just by changing the dates. Then the posters for the cupcake and bake sales could be constructed of more durable and longer-lasting materials. We continued to discuss how we could improve our posters and came up with the following ideas:

1. Change the date by placing a new piece of paper with new date on it each week.

2. Make a holder and slide letters and numbers in it.

3. Leave a hole in the poster where the date belongs. Put another piece of cardboard behind the poster with different dates written on it that can be slid back and forth.

4. Laminate tagboard and use felt-tip markers each week.

After discussing these ideas, the class decided that the third idea was the best but that they should also laminate the posters to make them last longer.

Throughout the remainder of the school year we carried out many other fund-raising activities, including the manufacture and sale of T-shirts. The whole class found that the experience and knowledge gained in Advertising was of great help in carrying out these activities successfully.

D. References

1. LIST OF "HOW TO" CARDS

Below are listed the current "How To" Card titles that students working on the Advertising challenge might find useful. A complete listing of both the "How To" Cards and the Design Lab "How To" Cards is contained in the USMES Guide. In addition, the Design Lab Manual contains the list of Design Lab "How To" Cards.

GRAPHING

GR 1 - How to Make a Bar Graph Picture of Your Data
GR 2 - How to Show the Differences in Many Measurements or Counts of the Same Thing by Making a Histogram
GR 3 - How to Make a Line Graph Picture of Your Data
GR 4 - How to Decide Whether to Make a Bar Graph Picture or a Line Graph Picture of Your Data
GR 5 - How to Find Out If There is Any Relationship Between Two Things by Making a Scatter Graph
GR 6 - How to Make Predictions by Using a Scatter Graph
GR 7 - How to Show Several Sets of Data on One Graph

MEASUREMENT

M 1 - How to Use a Stopwatch
M 2 - How to Measure Distances
M 9 - How to Make a Conversion Graph to Use in Changing Measurements from One Unit to Another Unit
M 10 - How to Use a Conversion Graph to Change *Any* Measurement in One Unit to Another Unit

PROBABILITY AND STATISTICS

PS 2 - How to Record Data by Tallying
PS 3 - How to Describe Your Set of Data by Finding the Average
PS 4 - How to Describe Your Set of Data by Using the Middle Piece (Median)
PS 5 - How to Find the Median of a Set of Data from a Histogram

PROPORTIONS, AND SCALING

R 1 - How to Compare Fractions or Ratios by Making a Triangle Diagram*

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*Presently called slope diagram.

New titles to be added in 1976:

How to Compare Two Sets of Data by Making a Q-Q Graph
How to Design and Analyze a Survey
How to Choose a Sample
How to Compare Two Sets of Data by Using Interquartile Ranges
How to Design an Experiment
How to Make and Use a Cumulative Distribution Graph

A cartoon-style set of "How To" Cards for primary grades is being developed from the present complete set. In most cases titles are different and contents have been rearranged among the various titles. It is planned that this additional set will be available early in 1977.

2. LIST OF BACKGROUND PAPERS

As students work on USMES challenges, teachers may need background information that is not readily accessible elsewhere. The Background Papers fulfill this need and often include descriptions of activities and investigations that students might carry out.

Below are listed titles of current Background Papers that teachers may find pertinent to Advertising. The papers are grouped in the categories shown, but in some cases the categories overlap. For example, some papers about graphing also deal with probability and statistics.

The Background Papers are being revised, reorganized, and rewritten. As a result, many of the titles will change.

GRAPHING	*GR 3 Using graphs to Understand Data* by Earle Lomon *GR 4 Representing Several Sets of Data on One Graph* by Betty Beck *GR 6 Using Scatter Graphs to Spot Trends* by Earle Lomon *GR 7 Data Gathering and Generating Graphs at the Same Time (or Stack 'Em and Graph 'Em at One Fell Swoop!)* by Edward Liddle
GROUP DYNAMICS	*GD 2 A Voting Procedure Comparison That May Arise in USMES Activities* by Earle Lomon
MEASUREMENT	*M 3 Determining the Best Instrument to Use for a Certain Measurement* by USMES Staff
PROBABILITY AND STATISTICS	*PS 4 Design of Surveys and Samples* by Susan J. Devlin and Anne E. Freeny *PS 5 Examining One and Two Sets of Data Part I: A General Strategy and One-Sample Methods* by Lorraine Denby and James Landwehr *PS 6 Examining One and Two Sets of Data Part II: A Graphical Method for Comparing Two Samples* by Lorraine Denby and James Landwehr
RATIOS, PROPORTIONS, AND SCALING	*R 1 Graphic Comparison of Fractions* by Merrill Goldberg *R 2 Geometric Comparison of Ratios* by Earle Lomon

3. BIBLIOGRAPHY OF NON-USMES MATERIALS

Making posters, Elnora Martin, Grades 5-6.

The following books are references that may be of some use during work on Advertising. Publishers' prices may have changed. A list of references on general mathematics and science topics can be found in the *USMES Guide*.

Merrill, Jean. *The Toothpaste Millionaire*. Boston: Houghton Mifflin Company, 1972. $6.95.

An amusing story of a boy and his friends who start their own toothpaste business. After selling door-to-door and getting free advertising on a radio interview, the group goes on to make their own commercials for advertising on TV. (The story has also been made into a videotape and has been shown on the ABC After School Special television series.) For intermediate children.

Rachow, Leo. *Poster Craft*. New York: Sterling Publishing Company, Inc., 1971.

The why and how of poster making, including scaling and lettering. Examples of well designed professional posters. For children and teachers.

Vancouver Environment Education Project. *Shopping Centers*. Vancouver: VEEP, University of British Columbia, 1972.

While looking at various aspects of a shopping center, students investigate the advertising in the display windows and in the interior displays of different stores. A guide for teachers.

The following two films were used by a primary teacher to give the students in her class some additional background information about advertising.

A Message from Our Sponsor, K 105-8, Coronet Films, 65 East Southwater St., Chicago, Illinois, 60601.

Brand Names and Labelling Games, Benchmark Films, 145 Scarborough Rd., Briar Cliff Manor, N.Y., 10510

4. GLOSSARY

The following definitions may be helpful to a teacher whose class is investigating an Advertising challenge. Some of the words are included to give the teacher an understanding of technical terms; other are included because they are commonly used throughout the resource book.

These terms may be used when they are appropriate for the children's work. For example, a teacher may tell the children that when they conduct surveys, they are collecting *data*. It is not necessary for the teacher or students to learn the definitions nor to use all of these terms while working on their challenge. Rather, the children will begin to use the words and understand the meanings as they become involved in their investigations.

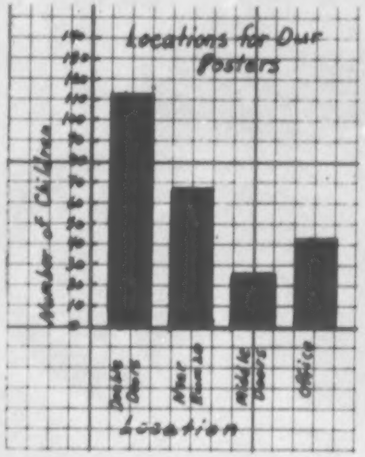
Accounts Payable	A current liability representing obligations to pay a creditor, usually a supplier.
Accounts Receivable	A current asset representing obligations owed to a company, usually by its customers.
Asset	Anything owned that is measurable in terms of money.
Audio	Relating to the transmission, reception, or reproduction of sound.
Audiovisual	Relating to both hearing and sight.
Average	The numerical value obtained by dividing the sum of the elements of a set of data by the number of elements in that set. Also called the mean.
Barter	To exchange one piece of merchandise for another.
Caption	An explanatory title that accompanies a drawing or photograph.
Comparative Shopping	A method for determining the best buy(s) by comparing the costs, quantities, and qualities of different brands of products.
Consumer	A person who buys or uses goods or services.

Conversion	A change from one form to another. Generally associated in mathematics and science with the change from one unit of measure to another or the change from one form of energy to another.
Correlation	A relationship between two sets of data.
Cost	The amount of money needed to produce or to purchase goods or services.
Darkroom	An unlighted room used for handling light-sensitive materials, such as photographic negatives.
Data	Any facts, quantitative information, or statistics.
Develop	To treat exposed photographic materials with chemicals to produce a visible image.
Discount	A reduction in the price of products or services, often stated as a percentage of price. This is done (1) for customers who buy in large quantities or (2) in order to generate a greater volume of sales.
Distribution	The spread of data over the range of possible results.
Division of Labor	The process by which a complicated task is reduced to a series of simple tasks. Each task is normally performed repetitively by the same worker.
Economics	A social science concerned chiefly with description and analysis of the production, distribution, and consumption of goods and services.
Edit	To collect and arrange materials into a finished publication or program.
Event	A happening; an occurrence; something that takes place. Example: A sale or play that the class is advertising.
Foot-Candle	A unit of measurement of illuminating. A surface placed one foot from a light source having a light intensity of one candle has an illuminationg of one foot-candle.
Frequency	The number of times a certain event occurs in a given unit of time or in a given total number of events.
Graph	A drawing or a picture of one or several sets of data.

Bar Graph

A graph of a set of measures or counts whose sizes are represented by the vertical (or horizontal) lengths of bars of equal widths. Example: the number of children who passed by certain locations in the school from 2:00 to 2:15 p.m.

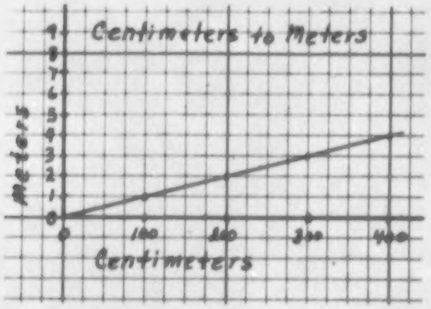
Location	Number of Children
Double doors	112
Near Room 20	68
Middle doors	25
Office	42



Conversion Graph

A line graph that is used to change one unit of measurement to another. For example, changing centimeters to meters, and vice versa.

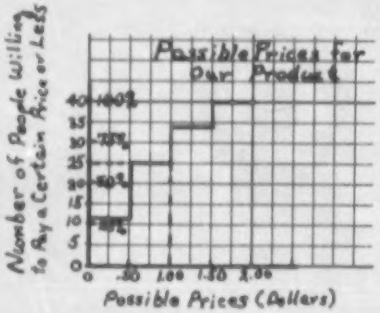
Centimeters	Meters
100	1
200	2
300	3
400	4



Cumulative Distribution Graph

A graph that can be constructed from a histogram by computing running totals from the histogram data. The first running total is the first value in the histogram data (see table of values). The second running total is the sum of the first and second values of the histogram, the third is the sum of the first, second, and third values, and so on. The horizontal scale on the graph is the same as the histogram; the vertical scale goes from 0 to the total number of events observed or samples taken (in the example, the total number of people willing to pay a certain price). Each vertical distance on the graph shows the running totals for the values shown on the horizontal scale. Thus the graph below indicates that twenty-five people (or approximately 63% of the people surveyed) were willing to pay $1.00 or less for the product.

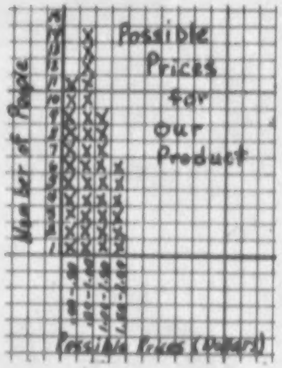
Possible Price	Running Total Number of People
$ .50 or less	11
$1.00 or less	25
$1.50 or less	34
$2.00 or less	40



Histogram

A type of bar graph that shows the distribution of the number of times that different measures or counts of the same event have occurred. A histogram always shows ordered numerical data on the horizontal axis. Example: Possible prices of the product being advertised vs. number of people willing to pay those prices.

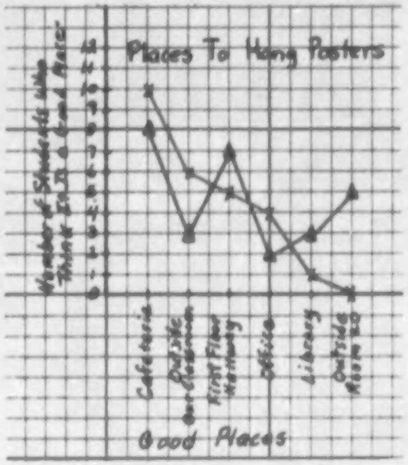
Possible Price (Dollars)	Number of People
.00 - .50	11
.50 - 1.00	14
1.00 - 1.50	9
1.50 - 2.00	6



Line Chart

A bar graph that is represented by circles, triangles, or crosses with lines connecting them so that it has the appearance of a line graph. (See *Line Graph*.) This is a useful representation when two or more sets of data are shown on the same graph. Example: Survey results on good places to hang posters from our class and Room 20.

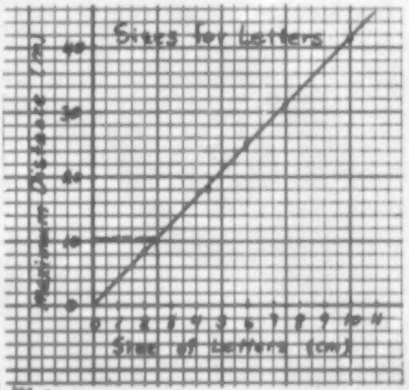
Good Places	Number of Students Who Think It Is a Good Place	
	Our Class - x	Room 20 - Δ
Cafeteria	10	8
Outside Our Classroom	6	3
First Floor Hallway	5	7
Office	4	2
Library	1	3
Outside Room 20	0	5



Line Graph

A graph in which a smooth line or line segments pass through or near points representing members of a set of data. Since the line represents an infinity of points, the variable on the horizontal axis must be continuous. Example: the size of letters on a poster vs. the maximum distance at which letters can be read. (This is a line graph since you can tell from the graph that a letter 2½ cm tall can be read at a maximum distance of approximately 10 m.)

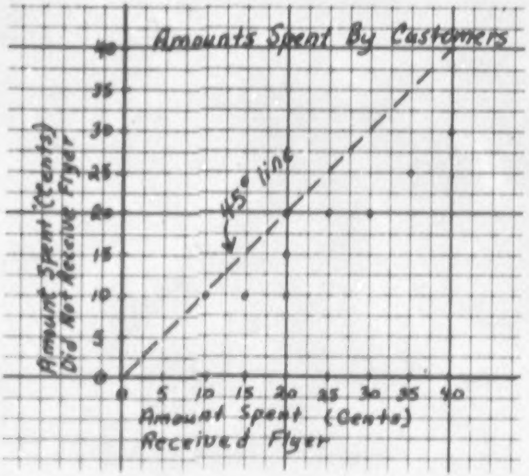
Size of Letters (cm)	Max. Distance (meters)
2 cm	8.3 m
4½ cm	18.0 m
6 cm	25.0 m
7½ cm	31.2 m
10 cm	41.6 m



A graph that shows the comparison between the same type of data collected from two groups of people,....from two different situations,....from two brands of a product. Example: amounts of money spent by students who received a flyer advertising the product and amounts of money spent by students who did not receive a flyer advertising the product. The data for each set is ordered and the smallest measurement of one set plotted against the smallest of the other set, the second smallest against the second smallest, and so on. The scatter of points is compared to a reference line, a dashed 45° line that represents the data from two identical sets.

Amount Spent (In Cents)

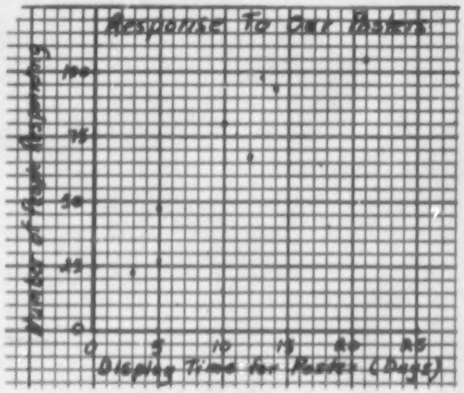
Received Flyer	Did Not Receive Flyer
10¢	10¢
15¢	10¢
20¢	10¢
20¢	15¢
20¢	20¢
25¢	20¢
30¢	20¢
35¢	25¢
40¢	30¢



Scatter Graph

A graph showing a scatter of points, each of which represents two characteristics of the same thing. For example, in the graph below, each point represents a poster; the position of the point indicates the length of time that the poster was displayed and the number of people responding to the poster (by buying product, entering contest, etc.).

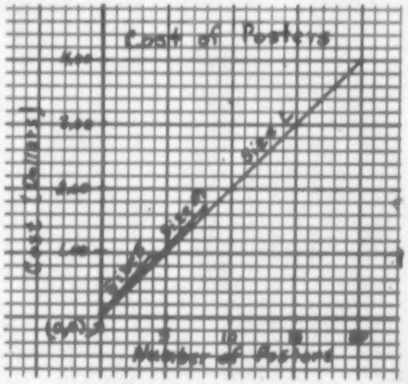
Poster	Display Time for Poster in Days	Number of People Responding
A	5	47
B	10	80
C	14	94
D	3	23
E	21	105
F	5	26
G	12	67



*Slope Diagram**

A graphical means of comparing fractions or ratios. To represent the ratio a/b, plot the point (b,a) and draw a line from (b,a) to the origin, (0,0). The slope of this line represents the ratio a/b. By comparing slopes of several lines, different ratios can be compared; the less steep the line, the smaller the ratio. For example, in the diagram showing the ratio of cost to number of posters for different sizes of cardboard, the ratio of cost to the number of posters for Size L is smaller than that for Sizes M and S, and therefore, Size L costs the least per poster.

Cardboard	Cost (dollars)	Number of Posters
Size S	1.00	4
Size M	1.75	8
Size L	4.00	20



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*Formerly called triangle diagram.

Gross Profit	See *Profit*.
Histogram	See *Graph*.
Hypothesis	A tentative conclusion made in order to test its implications or consequences.
Illumination (Illuminance)	A measure of how well-lit a surface is. More technically, a measure of how much light energy falls upon a given area in a given time. Measured in foot-candles.
Inference	An assumption derived from facts or information considered to be valid and accurate.
Interest	A charge for borrowing money; generally a percentage of the amount borrowed.
Liability	A debt or obligation.
Marketing	The study or implementation of the most profitable and efficient methods of directing goods from manufacturer to consumer.
Market Research	The compilation of statistical information concerning consumers or purchasers.
Mean	See *Average*.
Median	The middle value of a set of data in which the elements have been ordered from smallest to largest. The median value has as many elements above it as below it.
Medium, pl. Media	A means of communication. Examples: publication, television, radio.
Merchandising	Identifying and meeting market needs in terms of products and subsequently stimulating a demand for products through advertising, promotion, and selling.
Mode	The element or elements in a set of data that occur most often.
Negative	A transparent material upon which a photographic image has been formed; used for printing photographs.

Net Income	Profit for a given period.
Ordered Set	A set of data arranged from smallest to largest.
Per Cent	Literally per hundred. A ratio in which the denominator is always 100, e.g., 72 percent = 72/100 = 0.72 = 72% , where the symbol % represents 1/100.
Percentage	A part of a whole expressed in hundredths.
Population	Any group of objects (e.g., people, animals, items) or events from which samples are taken for statistical measurement.
Profit	The excess of monetary returns over expenditures; the excess of the selling price of goods over their cost. (Often called net income.)
Gross Profit	The profit reported before deduction of the indirect costs of doing business.
Profit Margin	Profit expressed as a percentage of total sales revenue.
Proportion	A statement of equality of two ratios, i.e., the first term divided by the second term equals the third term divided by the fourth term, e.g., 5/10 = 1/2. Also a synonym for ratio: when two quantities are in direct proportion, their ratios are the same.
Quartile	
First	The first quartile is the value of the quarter-way piece of data in an ordered set of data.
Third	The third quartile is the value of the three-quarter-way piece of data in an ordered set of data.
Interquartile Range	The range or length of the middle 50% of an ordered set of data; the difference between the first and third quartile.
Range	Mathematical: the difference between the smallest and the largest values in a set of data.
Rank	To order the members of a set according to some criterion, such as size or importance. Example: to put pieces of data from smallest to largest.

Ratio	The quotient of two denominate numbers or values indicating the relationship in quantity, size, or amount between two different things. For example, the ratio of the height of a poster to the height of the lettering on the poster might be $\frac{\text{90 centimeters}}{\text{12 centimeters}}$ or 90 centimeters:12 centimeters.
Recycle	To process a discarded item for reuse, either for its original purpose or for a new purpose.
Retail Price	The price level of goods sold in small quantity to the consumer.
Sample	A representative fraction of a population studied to gain information about the whole population.
Sample Size	The number of elements in a sample.
Scale	A direct proportion between two sets of dimensions (as between the dimensions in a drawing of a lab and the actual lab).
Scale Drawing	A drawing whose dimensions are in direct proportion to the object drawn.
Scale Model	A three-dimensional representation constructed to scale.
Set	A collection of characteristics, persons, or objects. Each thing in a set is called a member or an element.
Slope Diagram	See *Graph*.
Sound Intensity	Level or loudness of a sound. A measure of how much sound energy flows through a given area in a given time. Measured in decibels of watts/cm^2.
Statistics	The science of drawing conclusions or making predictions using a collection of quantitative data.
Storyboard	An ordered series of pictures that tells a story.
Symmetry	The correspondence of parts of a figure on opposite sides of a point, line, or plane.

Tally	A visible record used to keep a count of some set of data, especially a record of the number of times one or more events occur. Example: A tally of the number of people who pass various locations in the school.
Traffic Volume	The number of people passing a fixed point (e.g., the school office) in a given period of time.
Video	Relating to the transmission or reception of the television image.
Videotape	A magnetic tape used to record a television production.
Wholesale Price	The price level of goods sold in large quantity to a merchant for resale.

E. Skills, Processes, and Areas of Study Utilized in Advertising

The unique aspect of USMES is the degree to which it provides experience in the process of solving real problems. Many would agree that this aspect of learning is so important as to deserve a regular place in the school program even if it means decreasing to some extent the time spent in other important areas. Fortunately, real problem solving is also an effective way of learning many of the skills, processes, and concepts in a wide range of school subjects.

On the following pages are five charts and an extensive, illustrative list of skills, processes, and areas of study that are utilized in USMES. The charts rate Advertising according to its potential for learning in various categories of each of five subject areas--real problem solving, mathematics, science, social science, and language arts. The rating system is based on the amount that each skill, process, or area of study within the subject areas is used--extensive (1), moderate (2), some (3), little or no use (-). (The USMES Guide contains a chart that rates all USMES units in a similar way.)

The chart for real problem solving presents the many aspects of the problem-solving process that students generally use while working on an USMES challenge. A number of the steps in the process are used many times and in different orders, and many of the steps can be performed concurrently by separate groups of students. Each aspect listed in the chart applies not only to the major problem stated in the unit challenge but also to many of the tasks each small group undertakes while working on a solution to the major problem. Consequently, USMES students gain extensive experience with the problem-solving process.

The charts for mathematics, science, social science, and language arts identify the specific skills, processes, and areas of study that may be learned by students as they respond to an Advertising challenge and become involved with certain activities. Because the students initiate the activities, it is impossible to state unequivocally which activities will take place. It is possible, however, to document activities that have taken place in USMES classes and identify those skills and processes that have been used by the students.

Knowing in advance which skills and processes are likely to be utilized in Advertising and knowing the extent that they will be used, teachers can postpone the teaching of those skills in the traditional manner until later in the year. If the students have not learned them during their USMES activities by that time, they can study them in the usual way. Further, the charts enable a teacher to integrate USMES more readily with other areas of classroom work. For example, teachers may teach fractions during math period when fractions are also being learned and utilized in the students' USMES activities. Teachers who have used USMES for several successive years have found that students are more motivated to learn basic skills when they have determined a need for them in their USMES activities. During an USMES session the teacher may allow the students to learn the skills entirely on their own or from other students, or the teacher may conduct a skill session as the need for a particular skill arises.

Because different USMES units have differing emphases on the various aspects of problem solving and varying amounts of possible work in the various subject areas, teachers each year might select several possible challenges, based on their students' previous work in USMES, for their class to consider. This choice should provide students with as extensive a range of problems and as wide a variety of skills, processes, and areas of study as possible during their years in school. The charts and lists on the following pages can also help teachers with this type of planning.

Some USMES teachers have used a chart similar to the one given here for real problem solving as a record-keeping tool, noting each child's exposure to the various aspects of the process. Such a chart might be kept current by succeeding teachers and passed on as part of a student's permanent record. Each year some attempt could be made to vary a student's learning not only by introducing different types of challenges but also by altering the specific activities in which each student takes part. For example, children who have done mostly construction work in one unit may be encouraged to take part in the data collection and data analysis in their next unit.

Following the rating charts are the lists of explicit examples of real problem solving and other subject area skills, processes, and areas of study learned and utilized in Advertising. Like the charts, these lists are based on documentation of activities that have taken place in USMES classes. The greater detail of the lists allows teachers to see exactly how the various basic skills, processes, and areas of study listed in the charts may arise in Advertising.

The number of examples in the real problem solving list have been limited because the list itself would be unreasonably long if all the examples were listed for some of the categories. It should also be noted that the example(s) in the first category--*Identifying and Defining Problems*--have been limited to the major problem that is the focus of the unit. During the course of their work, the students will encounter and solve many other, secondary problems, such as the problem of how to display their data or how to draw a scale layout.

Breaking down an interdisciplinary curriculum like USMES into its various subject area components is a difficult and highly inexact procedure. Within USMES the various subject areas overlap significantly, and any subdivision must be to some extent arbitrary. For example, where does measuring as a mathematical skill end and measurement as science and social science process begin? How does one distinguish between the processes of real problem solving, of science, and of social science? Even within one subject area, the problem still remains--what is the difference between graphing as a skill and graphing as an area of study? This problem has been partially solved by judicious choice of examples and extensive cross-referencing.

Because of this overlap of subject areas, there are clearly other outlines that are equally valid. The scheme presented here was developed with much care and thought by members of the USMES staff with help from others knowledgeable in the fields of mathematics, science, social science, and language arts. It represents one method of examining comprehensively the scope of USMES and in no way denies the existence of other methods.

REAL PROBLEM SOLVING	Overall Rating
Identifying and defining problem.	1
Deciding on information and investigations needed.	1
Determining what needs to be done first, setting priorities.	1
Deciding on best ways to obtain information needed.	1
Working cooperatively in groups on tasks.	1
Making decisions as needed.	1
Utilizing and appreciating basic skills and processes.	1
Carrying out data collection procedures--observing, surveying, researching, measuring, classifying, experimenting, constructing.	1
Asking questions, inferring.	1
Distinguishing fact from opinion, relevant from irrelevant data, reliable from unreliable sources.	1
Evaluating procedures used for data collection and analysis. Detecting flaws in process or errors in data.	1

REAL PROBLEM SOLVING	Overall Rating
Organizing and processing data or information.	1
Analyzing and interpreting data or information.	1
Predicting, formulating hypotheses, suggesting possible solutions based on data collected.	1
Evaluating proposed solutions in terms of practicality, social values, efficacy, aesthetic values.	1
Trying out various solutions and evaluating the results, testing hypotheses.	1
Communicating and displaying data or information.	2
Working to implement solution(s) chosen by the class.	1
Making generalizations that might hold true under similar circumstances; applying problem-solving process to other real problems.	1

KEY: 1 = extensive use, 2 = moderate use, 3 = some use, - = little or no use

MATHEMATICS	Overall Rating
Basic Skills	
Classifying/Categorizing	2
Counting	1
Computation Using Operations	
Addition/Subtraction	2
Multiplication/Division	2
Fractions/Ratios/Percentages	2
Business and Consumer Mathematics/ Money and Finance	2
Measuring	2
Comparing	2
Estimating/Approximating/Rounding Off	2
Organizing Data	1
Statistical Analysis	1
Opinion Surveys/Sampling Techniques	2
Graphing	2
Spatial Visualization/Geometry	1
Areas of Study	
Numeration Systems	2
Number Systems and Properties	2
Denominate Numbers/Dimensions	2
Scaling	-
Symmetry/Similarity/Congruence	3
Accuracy/Measurement Error/ Estimation/Approximation	2
Statistics/Random Processes/Probability	1
Graphing/Functions	2
Fraction/Ratio	2
Maximum and Minimum Values	-
Equivalence/Inequality/Equations	2
Money/Finance	2
Set Theory	3

SCIENCE	Overall Rating
Processes	
Observing/Describing	1
Classifying	2
Identifying Variables	2
Defining Variables Operationally	2
Manipulating, Controlling Variables/ Experimenting	3
Designing and Constructing Measuring Devices and Equipment	2
Inferring/Predicting/Formulating, Testing Hypotheses/Modelling	1
Measuring/Collecting, Recording Data	1
Organizing, Processing Data	1
Analyzing, Interpreting Data	1
Communicating, Displaying Data	2
Generalizing/Applying Process to New Problems	1
Areas of Study	
Measurement	2
Motion	-
Force	-
Mechanical Work and Energy	-
Solids, Liquids, and Gases	-
Electricity	-
Heat	-
Light	2
Sound	2
Animal and Plant Classification	-
Ecology/Environment	-
Nutrition/Growth	-
Genetics/Heredity/Propagation	-
Animal and Plant Behavior	-
Anatomy/Physiology	-

KEY: 1 = extensive use, 2 = moderate use, 3 = some use, - = little or no use

SOCIAL SCIENCE	Overall Rating
Process	
Observing/Describing/Classifying	1
Identifying Problems, Variables	1
Manipulating, Controlling Variables/ Experimenting	3
Inferring/Predicting/Formulating, Testing Hypotheses	1
Collecting, Recording Data/Measuring	1
Organizing, Processing Data	1
Analyzing, Interpreting Data	1
Communicating, Displaying Data	2
Generalizing/Applying Process to Daily Life	1
Attitudes/Values	
Accepting responsibility for actions and results	1
Developing interest and involvement in human affairs	1
Recognizing the importance of individual and group contributions to society	1
Developing inquisitiveness, self-reliance, and initiative	1
Recognizing the values of cooperation, group work, and division of labor	1
Understanding modes of inquiry used in the sciences, appreciating their power and precision	1
Respecting the views, thoughts, and feelings of others	1
Being open to new ideas and information	1
Learning the importance and influence of values in decision making	1
Areas of Study	
Anthropology	-
Economics	1
Geography/Physical Environment	-
Political Science/Government Systems	3
Recent Local History	-
Social Psychology/Individual and Group Behavior	1
Sociology/Social Systems	2

LANGUAGE ARTS	Overall Rating
Basic Skills	
Reading	
Literal Comprehension: Decoding Words, Sentences, Paragraphs	2
Critical Reading: Comprehending Meanings, Interpretation	1
Oral Language	
Speaking	1
Listening	1
Memorizing	2
Written Language	
Spelling	1
Grammar: Punctuation, Syntax, Usage	1
Composition	1
Study Skills	
Outlining/Organizing	3
Using References and Resources	1
Attitudes/Values	
Appreciating the value of expressing ideas through speaking and writing	1
Appreciating the value of written resources	3
Developing an interest in reading and writing	1
Making judgments concerning what is read	1
Appreciating the value of different forms of writing, different forms of communication	1

KEY: 1 = extensive use, 2 = moderate use,
3 = some use, - = little or no use

REAL PROBLEM SOLVING IN ADVERTISING

Identifying and Defining Problems	• Students identify a need to advertise their sale. • See also SOCIAL SCIENCE list: *Identifying Problems, Variables.*
Deciding on Information and Investigations Needed	• After discussing the various kinds of advertising media, students decide that they need information on what makes a good ad and on how much people are willing to pay for their product.
Determining What Needs to Be Done First, Setting Priorities	• Students list tasks to be done and decide that a price has to be set and a time and place for the sale chosen before posters and flyers are made.
Deciding on Best Ways to Obtain Information Needed	• Students invite the manager of a local ad agency to visit with them and give them some advertising tips. • Students decide that each person in the class should bring in two or three ads from magazines that he/she finds appealing. • Students decide to conduct an opinion survey of the class to determine the price that most students are willing to pay for their item.
Working Cooperatively in Groups on Tasks	• Students form groups to survey other students and to research information and make up samples of ads for posters, flyers, sandwich boards, and intercom announcements.
Making Decisions as Needed	• After looking at several posters, class votes on the one that seems to advertise their product best. • Students decide that they should charge $.75 for their product after tallying survey data. • Students discuss possible places to have their sale and decide that outside their room is the best place.
Utilizing and Appreciating Basic Skills and Processes	• Students draw graphs to show the number of students willing to pay a certain price. • Students use stopwatches to time the lengths of their intercom announcements.

Utilizing and Appreciating Basic Skills and Processes (cont.)	• Students write dialogs for intercom announcements and skits. • Students discuss the honesty of their advertising. • See also MATHEMATICS, SCIENCE, SOCIAL SCIENCE, and LANGUAGE ARTS lists.
Carrying Out Data Collection Procedures--Opinion Surveying, Researching, Measuring, Classifying, Experimenting, Constructing	• Students measure traffic flow in various locations of the school to determine best placement of posters. • Students conduct opinion survey of one class in each grade to determine a price for their product, best slogan to use in their advertising. • Students collect and classify magazine ads based on their color, design, humor, simplicity, and subject matter (animals, appealing food, babies, etc.). • Students time other intercom announcements to determine how long their announcement should be. • Students construct posters to advertise their item. • See also MATHEMATICS list: *Classifying/Categorizing; Measuring.* • See also SCIENCE list: *Observing/Describing; Classifying; Manipulating, Controlling Variables/Experimenting; Designing and Constructing Measuring Devices and Equipment; Measuring/Collecting, Recording Data.* • See also SOCIAL SCIENCE list: *Observing/Describing/Classifying; Manipulating, Controlling Variables/Experimenting; Collecting, Recording Data/Measuring.*
Asking Questions, Inferring	• Students ask which method of advertising is best. They infer that the method that is cheapest and reaches the most people is best. • See also SCIENCE list: *Inferring/Predicting/Formulating, Testing Hypotheses/Modeling.* • See also SOCIAL SCIENCE list: *Inferring/Predicting/Formulating, Testing Hypotheses.*
Distinguishing Fact from Opinion, Relevant from Irrelevant Data, Reliable from Unreliable Sources	• Students recognize that advertising information is often presented as fact but is actually opinion. • Students recognize that they should not advertise the negative qualities of their item. • Students recognize that the manager of an advertising agency is a good source of information on advertising.

Evaluating Procedures Used for Data Collection and Analysis, Detecting Flaws in Process or Errors in Data	• Students decide to measure the traffic flow in the school at several times in the school day before deciding where to hang their posters. • Students discuss whether the results of their classroom survey actually represent the price most students are willing to pay and decide to survey one class from each grade to find out. • See also MATHEMATICS list: *Estimating/Approximating/ Rounding Off.*
Organizing and Processing Data	• Students record traffic flow data on a chart. • Students group their opinion survey by grades to find the slogan each grade level likes best. • Students order their data on prices to find the price most students are willing to pay. • See also MATHEMATICS list: *Organizing Data.* • See also SCIENCE and SOCIAL SCIENCE lists: *Organizing, Processing Data.*
Analyzing and Interpreting Data	• Students decide to use the slogan preferred by students in certain grade levels on posters put in that section of the school. • Students find the price most students are willing to pay (mode). • See also MATHEMATICS list: *Comparing; Statistical Analysis; Opinion Surveys/Sampling Techniques; Graphing; Maximum and Minimum Values.* • See also SCIENCE and SOCIAL SCIENCE lists: *Analyzing, Interpreting Data.*
Predicting, Formulating Hypotheses, Suggesting Possible Solutions Based on Data Collected	• Students predict that next to the lunchroom is the best place to hang one poster since this area has more traffic than any other area. • After finding the price that most students are willing to pay, students suggest that the sale price be changed. • Students hypothesize that students at certain grade levels will respond better to a poster that includes a slogan they like. • See also SCIENCE list: *Inferring/Predicting/Formulating, Testing Hypotheses/Modeling.* • See also SOCIAL SCIENCE list: *Inferring/Predicting/ Formulating, Testing Hypotheses.*

Evaluating Proposed Solutions in Terms of Practicality, Social Values, Efficacy, Aesthetic Values	• Students discuss advantages and disadvantages of intercom announcements, flyers, and posters as ways of advertising. • Students designing posters consider color, humor, design, and appeal to others in the school. • Students discuss whether or not their slogan could be misleading to others.
Trying Out Various Solutions and Evaluating the Results, Testing Hypotheses	• Students try various means of advertising (flyers, posters, intercom announcements, etc.) and assess the efficacy of each. • See also SCIENCE list: *Inferring/Predicting/Formulating, Testing Hypotheses/Modeling.* • See also SOCIAL SCIENCE list: *Inferring/Predicting/Formulating, Testing Hypotheses.*
Communicating and Displaying Data or Information	• Students draw histograms to show possible prices and number of students willing to pay each price. • Students construct a chart illustrating the qualities of a good ad. • Students draw a line chart to show the slogans preferred by different grade levels. • Students draw a map showing traffic in school to determine best locations for posters. • See also MATHEMATICS list: *Graphing; Scaling.* • See also SCIENCE AND SOCIAL SCIENCE lists: *Communicating, Displaying Data.* • See also LANGUAGE ARTS list.
Working to Implement Solution(s) Chosen by the Class	• Students distribute flyers, hang posters, and make announcements over the intercom to advertise their sale. • Students hold sale of their item.
Making Generalizations That Might Hold True Under Similar Circumstances; Applying Problem-Solving Process to Other Real Problems	• Students use their knowledge of advertising to promote greater use of the school library. • Students working on Advertising apply skills acquired to work on Mass Communications. • Students use their knowledge of advertising to analyze and evaluate TV and magazine ads. • See also SCIENCE list: *Generalizing/Applying Process to New Problems.* • See also SOCIAL SCIENCE list: *Generalizing/Applying Process to Daily Life.*

ACTIVITIES IN ADVERTISING UTILIZING MATHEMATICS

Basic Skills

Classifying/Categorizing	• Categorizing characteristics or properties of ads. • Categorizing characteristics of advertisements in more than one way. • Organizing and classifying different methods of advertising, different kinds of ads. • Distinguishing sets and subsets of quantitative survey data on price that students in different grades are willing to pay for item(s) advertised. • Categorizing ads according to factors that make them successful (humor, double meaning, catchy jingle, good color, simplicity, etc.). • See also SCIENCE list: *Classifying*. • See also SOCIAL SCIENCE list: *Observing/Describing/Classifying*.
Counting	• Counting survey data on design and slogan preferences and prices others are willing to pay. • Counting number of people in the school, number of people who pass by a location, number of feet and inches in a piece of posterboard, number of flyers needed for distribution to school or community. • Counting to read scales on rulers or meter sticks for constructing posters, skit props. • Counting by sets to find scale for graph axes. • See also SOCIAL SCIENCE list: *Collecting, Recording Data/Measuring*.
Computation Using Operations: Addition/Subtraction	• Adding one-, two-, or three-digit whole numbers to find total number of flyers needed or total measurement of posterboard needed. • Adding minutes and seconds when timing oral advertisements. • Subtracting to find differences between predicted and actual measurements of times to perform skits or to read announcements over intercom. • Subtracting to find differences between predicted and actual counts of sales (predicted and actual numbers of people who attend an event). • Subtracting one-, two-, or three-digit whole numbers to find ranges for graph axes or for measurement data.

Computation Using Operations: Multiplication/Division	• Multiplying whole numbers to find total measurement of posterboard needed, total time needed to make presentations in all classes in school. • Multiplying or dividing to find scale for graph axes. • Multiplying to convert from meters to centimeters or dividing to convert from centimeters to meters. • Dividing to calculate average number of people who pass by a certain location (to determine best placement of posters). • Dividing to calculate ratios, fractions, or percentages of people who prefer a certain type of advertisement.
Computation Using Operations: Fractions/Ratios/Percentages	• Using mixed numbers to perform calculations, such as calculating the number of posters that can be made with materials available or determining the number of letters that can be cut from a sheet of paper. • Changing fractions to higher or lower terms (equivalent fractions) to perform operations such as calculating the percentage of successful advertising campaigns. • Using ratios and fractions to convert from inches to feet or centimeters to meters. • Using fractions in measurement, graphing, graphic comparisons. • Using slope diagrams to compare the ratios of costs of various campaigns to number of people reached. • Calculating percentage of students willing to buy item advertised or attend event being promoted, who will pay a certain price for the item, who were attracted to a certain type of advertisement. • Using proportions to increase or decrease size of lettering used for posters, flyers.
Computation Using Operations: Business and Consumer Mathematics/ Money and Finance	• Adding and subtracting dollars and cents to perform cost analysis for product being advertised and sold or for different types of advertising campaigns, to figure profit or loss on sale of product, to make change. • Multiplying and dividing to perform cost analysis on product being advertised and sold, to figure total profit on sale of product. • Multiplying whole numbers to find total cost of product being sold. • Dividing to find unit cost of various brands of materials needed in making item, to find unit cost of different types of posterboard or paper for flyers. • Dividing to find cost per person of a certain type of advertising.

Computation Using Operations:
Business and Consumer Mathematics/
Money and Finance (cont.)

- Dividing to calculate average sales per week.
- Calculating percentage of profit from product being advertised and sold.
- Using comparison when shopping for materials such as posterboard, paints, felt-tip markers, glue, paper.
- Gaining experience with finance: sources, uses, and limitations of revenues for advertising.
- Investigating costs of advertising materials and equipment vs. use of materials and equipment and budget restrictions.

Measuring

- Using arbitrary units (e.g., children's paces) to measure distance between placement of posters.
- Using different standard units of measure, such as feet and inches, to measure length and width of posterboard.
- Converting from centimeters to meters.
- Reading rulers, tape measures, meter sticks, yardsticks accurately.
- Timing, using a watch or a clock, to determine how many people pass certain locations in the school during a certain time.
- See also SCIENCE list: *Measuring/Collecting, Recording Data; Measurement.*
- See also SOCIAL SCIENCE list: *Collecting, Recording Data/Measuring.*

Comparing

- Using the concept of *greater than* and *less than* in making comparisons of different sizes of posters and lettering.
- Comparing quantitative data on effectiveness of an advertisement gathered from various sources, such as survey results or sales of product.
- Comparing qualitative with quantitative data.
- Comparing the effects of different colors or different sizes of printing for ads.
- Comparing estimated and actual sales or estimated and actual number of people who attended event.
- Making graphic comparisons of fractions and ratios on slope diagrams of weight vs. price of various materials.
- Comparing costs of various advertising campaigns.
- See also SCIENCE list: *Analyzing, Interpreting Data.*
- See also SOCIAL SCIENCE list: *Analyzing, Interpreting Data.*

Estimating/Approximating/Rounding Off

- Estimating error in survey data on number of people who will buy product or attend event.
- Estimating the number of people reached by different advertising methods, number who will buy the product or attend the event, number who will pay a certain price for the product or event advertised.
- Estimating sizes of posters, measurement of posterboard needed, or the cost of posterboard needed.
- Estimating placement of posters on walls at heights determined by eyeballing; arranging layout of posters, flyers by eyeballing.
- Determining when a measurement is likely to be accurate enough for a particular purpose, e.g., using measurements of students to make sandwich boards to fit them.
- Using approximation in constructing posters, sandwich boards, props for skit or videotape.
- Rounding off measurements while measuring letters for posters or distances between posters on walls.

Organizing Data

- Tallying votes for different methods of advertising or different poster designs.
- Tallying on bar graphs, histograms.
- Ordering real numbers on number line or graph axis.
- Ordering survey results on prices that students are willing to pay for product.
- Ordering minutes and seconds.
- See also SCIENCE list: *Organizing, Processing Data.*
- See also SOCIAL SCIENCE list: *Organizing, Processing Data.*

Statistical Analysis

- Assessing predictability of larger sample of prices students are willing to pay based on results from smaller sample of prices students are willing to pay.
- Comparing medians, means and modes of data on prices students are willing to pay.
- Determining range of data on characteristics (age, grade, sex) of people interested in product or event.
- Interpretation of histograms, scatter graphs, q-q plots, cumulative distribution graphs.
- See also SCIENCE list: *Analyzing, Interpreting Data.*
- See also SOCIAL SCIENCE list: *Analyzing, Interpreting Data.*

Opinion Surveys/Sampling Techniques

- Conducting surveys on types of advertising preferred by customers, price customers are willing to pay, best slogan to use.
- Defining data collection methods, makeup and size of sample.
- Devising methods of obtaining quantitative information about subjective opinions of types of advertising preferred, prices customers are willing to pay.
- See also SCIENCE list: *Analyzing, Interpreting Data.*
- See also SOCIAL SCIENCE list: *Analyzing, Interpreting Data.*

Graphing

- Using alternative methods of displaying data, such as charts, graphs, maps.
- Making a graph form--dividing axes into parts, deciding on an appropriate scale.
- Obtaining information from graphs.
- Representing data on graphs.
  - Bar graph--plotting different locations in school vs. number of children passing by during a certain time.
  - Conversion graph--plotting feet vs. inches to use when measuring to make posters, sandwich boards.
  - Cumulative distribution graph--plotting possible prices for product vs. number of students willing to pay a certain price or less.
  - Histogram--plotting possible prices for product vs. number of people willing to pay a certain price.
  - Line chart--plotting student preferences and adult preferences for different types of advertisements.
  - Line graph--plotting size of letters on posters vs. maximum distance at which letters can be read.
  - Q-Q graph--plotting amounts of money spent by students who received flyers vs. amounts of money spent by students who did not receive flyers.
  - Scatter graph--plotting lengths of time various posters were displayed vs. number of people responding to those posters.
  - Slope diagram--plotting number of sheets in packages of different brands of paper for making flyers vs. cost of packages of paper.
- See also SCIENCE list: *Communicating, Displaying Data; Analyzing, Interpreting Data.*
- See also SOCIAL SCIENCE list: *Communicating, Displaying Data; Analyzing, Interpreting Data.*

Spatial Visualization/Geometry	• Drawing possible designs for posters, flyers, bulletin ads. • Constructing and using geometric figures, for example, triangles, circles to make layout designs for advertisements. • Using geometric figures to understand and utilize relationships such as area, similarity, congruence, symmetry. • Using standard mensurational formulas such as area = length x width. • Measuring and constructing posters and sandwich boards using rulers, compasses, and protractors. • Using spatial arrangements on written advertisements to convey information about product or event. • Using the concept of *greater than* and *less than* to compare geometric figures.

Areas of Study

Numeration Systems	• Using decimal system in measuring distance between posters, size of letters on posters (metric system measurement). • Using fractions in measuring lumber for sandwich boards (inches, fractions of inches—American system of measurement). • Using decimal system in calculations involving money (cost analysis, etc.).
Number Systems and Properties	• See *Computation Using Operations.*
Denominate Numbers/Dimensions	• See *Measuring.*
Scaling	• Making a map of the school to show best locations for posters.
Symmetry/Similarity/Congruence	• See *Spatial Visualization/Geometry.*
Accuracy/Measurement Error/ Estimation/Approximation	• See *Measuring* and *Estimating/Approximating/Rounding Off.*

Statistics/Random Processes/ Probability	• See *Statistical Analysis*.
Graphing/Functions	• See *Graphing*.
Fraction/Ratio	• See *Computation Using Operations: Fractions/Ratios/ Percentages*.
Maximum and Minimum Values	• Finding the method of advertising that produces maximum number of sales or maximum attendance at event for minimum cost. • Maximizing profit by considering both price and the number that can be sold at a given price. • Using slope diagrams to find minimum costs of materials. • Obtaining maximum number of posters from posterboard available, while keeping size of posters uniform.
Equivalence/Inequality/Equations	• See *Comparing* and *Computation Using Operations*.
Money/Finance	• See *Computation Using Operations: Business and Consumer Mathematics/Money and Finance*.
Set Theory	• See *Classifying/Categorizing*.

Process

Observing/Describing	• Observing and describing characteristics (or aspects) of product (or event) that appeal to most people. • Observing and describing locations for advertisements in the school. • Observing that there are many different ways to advertise: visually (posters, flyers), aurally (intercom announcements, tape recordings), or a combination of visually and aurally (skits, videotapes). • Observing that choice of color and size of lettering are factors in designing an effective poster. • Observing and describing characteristics of magazine ads that make them appealing such as warm colors, humor, symmetric designs. • See also SOCIAL SCIENCE list: *Observing/Describing/Classifying*.
Classifying	• Classifying ads according to various characteristics that make them appealing. • Classifying the places in the school that are possible locations for posters according to type and number of people reached. • See also MATHEMATICS list: *Classifying/Categorizing*. • See also SOCIAL SCIENCE list: *Observing/Describing/Classifying*.
Identifying Variables	• Identifying traffic flow as a variable to be measured in determining best location for posters. • Identifying color, size and type of lettering, and subject matter (e.g., animals, babies, food) as things that can be changed to improve response to a poster. • Identifying which variables (color, size and type of lettering, subject matter) to keep the same in conducting an experiment. • Identifying size of posters, size of lettering, and number of people who have read posters as things to be measured. • Identifying color, type of lettering, and content as things to categorize. • See also SOCIAL SCIENCE list: *Identifying Problems/Variables*.

Defining Variables Operationally	• Defining traffic flow past a location as the number of people passing the location in a certain time. • Defining size of a poster as its length in centimeters multiplied by its width in centimeters, i.e., its area in square centimeters. • Defining size of letters as their height measured in centimeters. • Defining type of lettering according to child who designed it. • Defining number of people who have read poster as the number who have correctly answered questions about what the poster says.
Manipulating, Controlling Variables/Experimenting	• Constructing posters of different colors and sizes with different sizes and types of letters and content, and surveying students to determine which poster is most appealing. • Surveying school population to determine which posters have been read. • See also SOCIAL SCIENCE list: *Manipulating, Controlling Variables/Experimenting.*
Designing and Constructing Measuring Devices and Equipment	• Constructing a stencil for letters and designs on posters.
Inferring/Predicting/Formulating, Testing Hypotheses/Modeling	• Deciding that bright colors are more appealing to people than dark colors. • Predicting that making the posters with bright colors will result in more people reading them. • Hypothesizing that larger lettering on the posters will result in more people reading them; surveying a random sample of the school population to find out if the posters have been read. • Making a map of the school showing possible locations for posters. • See also SOCIAL SCIENCE list: *Inferring/Predicting/Formulating, Testing Hypotheses.*
Measuring/Collecting, Recording Data	• Measuring traffic flow past certain locations at various times of day. • Using stopwatches to time lengths of skits, tape recordings, intercom announcements, TV commercials.

Measuring/Collecting, Recording Data (cont.)	• Measuring maximum distances from posters at which letters can be read, measuring sizes of letters. • Recording data on charts. • Measuring posters and posterboards when constructing posters. • See also MATHEMATICS list: *Measuring.* • See also SOCIAL SCIENCE list: *Collecting, Recording Data/Measuring.*
Organizing, Processing Data	• Ordering lengths of times for skits, tape recordings, intercom announcements from largest to smallest. • Ordering data on sizes of letters and maximum distances at which posters can be read. • Tabulating possible locations for posters and number of people passing these locations. • See also MATHEMATICS list: *Organizing Data.* • See also SOCIAL SCIENCE list: *Organizing, Processing Data.*
Analyzing, Interpreting Data	• Determining best colors and sizes for posters from preference survey data. • Determining best place(s) to put posters from data on traffic flow. • Finding the median length of time for an intercom announcement. • Calculating average length of TV commercial from data collected on lengths of TV commercials. • See also MATHEMATICS list: *Comparing; Statistical Analysis; Opinion Surveys/Sampling Techniques; Graphing; Maximum and Minimum Values.* • See also SOCIAL SCIENCE list: *Analyzing, Interpreting Data.*
Communicating, Displaying Data	• Constructing a chart (based on preference survey data) showing colors that are appealing to most people. • See also MATHEMATICS list: *Graphing.* • See also SOCIAL SCIENCE list: *Communicating, Displaying Data.* • See also LANGUAGE ARTS list.
Generalizing/Applying Process to New Problems	• Conducting other advertising campaigns. • Applying skills acquired to work on Mass Communications.

Generalizing/Applying Process to New Problems (cont.)	• Using knowledge of poster layout and design to help other classes make posters for their activities. • See also SOCIAL SCIENCE list: *Generalizing/Applying Process to Daily Life.*
Areas of Study	
Measurement	• Measuring posterboard and paper to make posters and flyers using different measuring tools, such as rulers and meter sticks. • Using a stopwatch to time lengths of intercom announcements, tape recordings, TV commercials. • Observing the difference in length of time between seconds and minutes when timing intercom announcements. • See also MATHEMATICS list: *Measuring.*
Mechanical Work and Energy	• Observing that force must be used to hammer nails into lumber when constructing props for a skit or constructing sandwich boards. • Observing that saber saws are faster than hand saws for cutting Tri-Wall or lumber and that they transform electrical energy into mechanical energy. • Observing that stapling many pages of a booklet or newsletter requires more effort than stapling a few pages.
Solids, Liquids, and Gases	
Properties of Matter	• Observing that paper materials available for making posters and flyers have different colors, weights, and durabilities. • Observing that, when mixing tempera paints, the dry powder mixes uniformly with water to form a mixture. • Observing that paper which has been run through a ditto machine may retain the smell of the ditto fluid.
Light	• Observing that signs and posters are more easily read in well-lighted areas. • Observing that signs, posters, and other written materials that have bright and contrasting colors are easier to read and are more appealing to others than those having dull colors or colors that are closer in hue (such as red and orange).

Light	• Observing that dark posters or signs become warm when placed in the sun. • Observing, when using cameras, that darker objects require a greater lens opening.
Sound	• Observing that the sounds of people's voices vary when working on oral presentations such as skits, intercom announcements. • Observing that a recording of a person's voice made with a tape recorder sounds different to that person but sounds the same to others. • Observing that speaking may cause an echo when rehearsing a skit in an empty room. • Observing that sound intensity decreases as the distance from the source increases.

ACTIVITIES IN ADVERTISING UTILIZING SOCIAL SCIENCE

Process	
Observing/Describing/Classifying	• Observing and describing preferences of students and teachers for various types of advertising, for various colors, sizes, and designs of posters. • Observing and describing characteristics of possible customers (e.g., sex, age, grade level). • Classifying people to whom ads are directed according to age, sex, or interests. • See also MATHEMATICS list: *Classifying/Categorizing*. • See also SCIENCE list: *Observing/Describing; Classifying*.
Identifying Problems, Variables	• Identifying problems causing poor response to advertising (e.g., posters placed in poor locations). • Identifying age and sex as possible factors in design and color preferences and in preferences for types of advertising. • See also SCIENCE list: *Identifying Variables*.
Manipulating, Controlling Variables/ Experimenting	• Surveying different groups (students in different grade levels, teachers, males and females) to determine differences in preferences for types of advertising or differences in color and design preferences. • Placing different posters in different areas of the school according to students' preferences for color and design. • Introducing advertising gimmicks such as free samples or discount coupons to see if sales increase. • See also SCIENCE list: *Manipulating, Controlling Variables/Experimenting*.
Inferring/Predicting/Formulating, Testing Hypotheses	• Choosing best method of advertising based on survey of customers' preferences for various types of advertising. • Choosing color and design of posters based on opinion surveys. • Hypothesizing that students at certain grade levels will respond better to posters with colors and designs they like. Testing hypothesis by conducting survey to determine how many students have read posters.

Inferring/Predicting/Formulating, Testing Hypotheses (cont.)	• Recommending a sales price for item or event, based on cost analysis and survey data. • Predicting that sales will increase when more than one type of advertising is used; listing number of items sold per day after another type of advertising is introduced. • See also SCIENCE list: *Inferring/Predicting/Formulating, Testing Hypotheses.*
Collecting, Recording Data/Measuring	• Counting votes to determine which slogan or poster design to use, to determine where and when to advertise or hold sale. • Counting number of people reached by a certain type of advertising. • Using a voting procedure to determine best place and time to hold sale, best slogan or design for posters. • See also MATHEMATICS list: *Counting; Measuring.* • See also SCIENCE list: *Measuring/Collecting, Recording Data.*
Organizing, Processing Data	• Tallying survey data on customer preferences for types of advertising or for color and design of ads. • Tallying questionnaire data on age, sex, and interests of people to whom advertising is directed. • Tallying questionnaire data on whether students have read posters. • Ordering survey results according to interests of prospective customers. • See also MATHEMATICS list: *Organizing Data.* • See also SCIENCE list: *Organizing, Processing Data.*
Analyzing, Interpreting Data	• Comparing quantitative data on age taken from opinion surveys or questionnaires. • Comparing qualitative information on customer interests and preferences gathered from various sources such as questionnaires and informal conversations. • Evaluating the way that opinion surveys were administered and the size and makeup of the sample. • See also MATHEMATICS list: *Comparing; Statistical Analysis; Opinion Surveys/Sampling Techniques; Graphing; Maximum and Minimum Values.* • See also SCIENCE list: *Analyzing, Interpreting Data.*

Communicating, Displaying Data	• Constructing charts illustrating qualities of a good ad. • Representing survey data on age and interests of prospective customers on graphs or charts. • See also MATHEMATICS list: *Graphing*. • See also SCIENCE list: *Communicating, Displaying Data*. • See also LANGUAGE ARTS list.
Generalizing/Applying Process to Daily Life	• Using knowledge of advertising to advertise products and events for others by setting up an "ad agency." • Using advertising experience to promote greater use of the school library or to advertise some other product or event. • Using knowledge of advertising to analyze and evaluate magazine and TV ads.

Attitudes/Values

Accepting Responsibility for Actions and Results	• Making sure that various tasks (e.g., constructing and hanging posters, distributing flyers) are done. • Scheduling hours and personnel at sale or event, to perform skit, or for intercom announcements. • Scheduling and giving presentations to persons in authority (principal, PTA) in order to obtain permission to hang posters, hold sale, and use intercom for announcements.
Developing Interest and Involvement in Human Affairs	• Using advertising to promote candidates for school elections, physical fitness, safety and good conduct in school, use of school store or school library, etc. • Investigating and publicizing faulty or misleading advertising seen in magazines, newspapers, on TV.
Recognizing the Importance of Individual and Group Contributions to Society	• Recognizing the effectiveness of advertising; using advertising to promote or publicize issues of concern to others in the school. • Recognizing that advertising can help the school in addition to themselves.
Developing Inquisitiveness, Self-Reliance, and Initiative	• Conducting group sessions with help from teacher. • Dealing with various merchants to obtain materials for making posters, flyers, etc.

Developing Inquisitiveness, Self-Reliance, and Initiative (cont.)	• Dealing with new kinds of equipment (ditto machine, tape recorder) and learning how to use them correctly. • Finding their own solutions to problems of poor response to advertising, layout of posters, in addition to main problem of challenge. • Choosing and developing best way of presenting a skit or presenting a proposal for an advertising campaign or sale to the principal or PTA. • Using the telephone to obtain information about supplies needed to construct posters, flyers, props for skits, etc.
Recognizing the Values of Cooperation, Group Work, and Division of Labor	• Finding that work on intercom announcements and posters progresses more rapidly and smoothly when it is done by a group. • Finding that coordination between groups results in well-timed and well-placed ads. • Finding that work is more fun and proceeds more smoothly when people learn to cooperate. • Eliminating needless overlap in work when constructing many posters of the same design in an assembly line.
Understanding Modes of Inquiry Used in the Sciences, Appreciating Their Power and Precision	• Using the scientific mode of inquiry to investigate and solve the problem of choosing a design and color for posters that satisfy the most people. • Convincing others through the use of supporting data (opinion surveys) and graphs that a suggested solution be adopted. • Seeing that tabulating the traffic flow for various locations in the school is a good method for determining poster placement.
Respecting the Views, Thoughts, and Feelings of Others	• Considering all suggestions and assessing their merit. • Considering the opinions of others when proposing a change; conducting opinion surveys to determine customer preferences for types of advertising.
Being Open To New Ideas and Information	• Considering many possible methods of advertising. • Asking other people for opinions, ideas, and information on advertising. • Looking in magazines, in newspapers, and at TV to get an idea of the many possible types of advertisements.

Learning the Importance and Influence of Values in Decision Making

- Realizing that preferences for various products and types of advertising reflect the values of each individual.
- Realizing that advertising must reflect certain values in order to be effective.
- Discussing the honesty of their advertising and whether or not their slogan could be misleading to others.

Areas of Study

Economics

- Using concepts and terms, for example, cost, profit, production cost, retail price, when advertising and selling a product or promoting an event (selling tickets).
- Gaining experience with finance: sources, uses, and limitations of revenues for purchase of posterboard, tapes, paper to use for advertisements.
- Gaining experience in comparative shopping for materials, charging fees, record keeping, analyzing advertising costs.
- Assessing preferences, characteristics of possible consumers through surveys or questionnaires.
- Analyzing variables affecting consumer purchase, commercial sales.
- Investigating economics of production and marketing, cost analysis of materials.
- Investigating costs of advertising materials vs. use of materials and budget restrictions.

Political Science/Government Systems

- Investigating systems of administration and control; deciphering role of governing body over the body that is governed.
- Determining need for rules and regulations for truth in advertising.
- Investigating regulations and policies affecting a planned advertising campaign.
- Contacting and working with school authorities to obtain permission to carry out various campaigns, to hold sales or put on events.

Social Psychology/Individual and Group Behavior

- Analyzing advertisements to determine the most effective way to reach the most people.
- Developing gimmick for advertising campaign.
- Recognizing and using different means of advertising to reach different groups.

Social Psychology/Individual and Group Behavior (cont.)	• Finding the "best" way to advertise a product or event. • Recognizing the need for leadership within small and large groups. • Recognizing the differing capacities of individuals for various roles within groups. • Analyzing the effects of a small group making decisions for a larger group.
Sociology/Social Systems	• Using advertising that will appeal to others in the school or community as well as themselves. • Devising a system of working cooperatively in small and large groups. • Investigating differing types of advertisements directed toward different social groups (children, adults, women, men, homemakers). • Recognizing that there are many different social groups and that one person belongs to more than one social group.

ACTIVITIES IN ADVERTISING UTILIZING LANGUAGE ARTS

Basic Skills

Reading: Literal Comprehension--Decoding Words, Sentences, and Paragraphs	• Decoding words, sentences, and paragraphs while reading posters or advertisements from magazines and newspapers.
Reading: Critical Reading--Comprehending Meanings, Interpretation	• Obtaining factual information about advertising regulations and techniques while reading books, instruction manuals. • Understanding what is read about advertising techniques and regulations. • Interpreting what is read, such as advertisements, instruction manuals, books on advertising.
Oral Language: Speaking	• Offering ideas, suggestions, and criticisms during discussions in small group work and class discussions on problems and proposed solutions. • Reporting to class on activities of small groups involving different types of advertising. • Responding to criticisms of activities. • Preparing, practicing, and giving skits, plays, slide/tape shows, intercom announcements. • Using the telephone properly and effectively to obtain information on materials needed for posters or flyers. • Conducting opinion surveys. • Using rules of grammar in speaking.
Oral Language: Listening	• Conducting interviews of students, teachers, adults to determine preferences for types of advertising. • Following spoken directions.
Oral Language: Memorizing	• Memorizing portions of oral presentations, memorizing roles in skits, plays, films.
Written Language: Spelling	• Using correct spelling in writing.
Written Language Grammar--Punctuation, Syntax, Usage	• Using rules of grammar in writing.

Written Language: Composition	• Writing to communicate effectively: • writing slogans, skits, plays. • writing ads for flyers and posters. • writing opinion survey(s), devising questions to elicit desired information; judging whether a question is relevant and whether its meaning is clear. • preparing programs for events that are advertised, such as plays.
Study Skills: Outlining/Organizing	• Taking notes. • Developing opinion survey; ordering questions around central themes, such as audience preferences for various types of advertising or for various items being sold. • Planning presentations, data collection schemes, etc. • Planning and preparing drafts of advertisements or proposals for advertising campaigns for critical review by the class before final copy is written. • Organizing ideas, facts, data for inclusion in advertisements and presentations.
Study Skills: Using References and Resources	• Using the library to research information on advertising techniques or rules and regulations. • Using various reference volumes (dictionary, encyclopedia, etc.) to locate information on colors and types of lettering. • Finding an expert in advertising and inviting him or her to speak to the class and answer questions for them. • Using indexes and tables of contents of books to locate desired information. • Using "How To" Cards for information on slope diagrams to compare size vs. cost of various types of posterboard.

Attitudes/Values

Appreciating the Value of Expressing Ideas Through Speaking and Writing	• Finding that others will respond to well-written posters and flyers by buying the product or attending the event. • Finding that a catchy slogan will increase sales of the product.

Appreciating the Value of Written Resources	• Finding that certain desired information can be found in books such as regulations or techniques for advertising.
Developing an Interest in Reading and Writing	• Willingly looking up information on advertising techniques, colors. • Looking up further or more detailed information on advertising regulations. • Showing desire to work on scripting skits, plays. • Experimenting with different ways to tell others about product or event, writing catchy ads and slogans.
Making Judgments Concerning What is Read	• Deciding which advertisements on posters and flyers are most likely to make others buy the product. • Checking to make sure that advertisements are accurate and truthful. • Deciding whether the advertisements are appropriate, whether they say what they are supposed to say, whether they need improvement. • Deciding whether information obtained about advertising through reading is applicable to the advertising needs of the class. • Deciding how reliable the information obtained from reading is.
Appreciating the Value of Different Forms of Writing, Different Forms of Communication	• Finding that how information in advertisements can best be conveyed is determined in part by the audience to whom it is directed. • Finding that certain information in ads can be conveyed best as pictures rather than words. • Finding that certain data or information can be best conveyed by writing it down, preparing graphs or charts, etc. • Finding that certain data or information should be written down so that it can be referred to at a later time. • Finding that spoken instructions are sometimes better than written instructions, and vice versa. • Investigating effect of different forms of communication on people (intercom announcements, skits, posters, flyers, ads in school newspaper or bulletin). • Devising advertising campaigns, using booklets, posters, intercom announcements, to influence customers.